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PRACTICAL OBSERVATIONS

ON THE

DISEASES OF THE ARMY IN JAMAICA.

VOL. I.



PRACTICAL OBSERVATIONS

ON THE

DISEASES OF THE ARMY

IN

JAMAICA,

AS THEY OCCURRED BETWEEN THE YEARS
1792 AND 1797;

ON THE

SITUATION, CLIMATE, AND DISEASES OF THAT ISLAND;
AND ON THE MOST PROBABLE MEANS OF LESSENING
MORTALITY AMONG THE TROOPS, AND AMONG
EUROPEANS IN TROPICAL CLIMATES.

By WILLIAM LEMPRIERE,

APOTHECARY TO HIS MAJESTY'S FORCES.

IN TWO VOLUMES.

VOL. I.

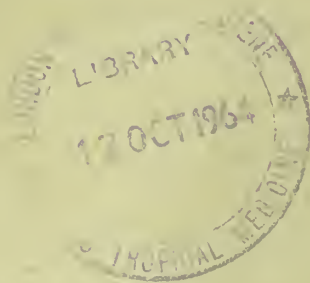
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TO
FIELD MARSHAL
HIS ROYAL HIGHNESS
THE DUKE OF YORK,
COMMANDER IN CHIEF
OF
HIS MAJESTY'S FORCES.

SIR,

THE unremitting attention of Your ROYAL HIGHNESS to the welfare of the Army in general, and the eagerness with which has been pursued every suggestion for improving the situation of the foldier, and pal-
VOL. I. a liating

liating the hardships inseparable from a military life, are circumstances which form a conspicuous part of the character of Your ROYAL HIGHNESS; and from which the service already has derived the most substantial benefit.

The condescending and flattering manner in which Your ROYAL HIGHNESS was pleased to patronize the following Remarks, suggested for the purpose of lessening mortality among the troops, and facilitating the service in tropical climates, is a confirmation of your regard for the interest and welfare of the foldier; and it has encouraged me to treat the subject with a freedom and latitude, which I have reason to hope will not by Your ROYAL HIGHNESS be unfavorably received.

That

That Your ROYAL HIGHNESS may long fill the exalted situation which you now adorn, and continue the support and patron of the British Army, is the sincere wish of

Your ROYAL HIGHNESS'S

Most grateful,

And much obliged Servant,

WILLIAM LEMPRIERE.

LONDON,
April 12th, 1799.

P R E F A C E.

THE Public already are in possession of so many valuable observations on the diseases of tropical climates, made by several authors and at various periods, that the subject would appear to be exhausted, and to exclude the necessity of any future publication upon that topic.

There cannot be a doubt but much information is to be derived from those works, and that if, by a judicious selection of the most valuable parts of each, the whole were to be concentrated into one treatise, it would form a publication of the greatest utility. Separately considered, they perhaps do not convey such particular or

general information, as may remove the prejudices, or correct the erroneous systems which the young or inexperienced practitioner may have imbibed, previous to his arrival in a tropical climate; and though the practice of medicine becomes empiricism, when not guided by principle, yet there is no branch of it, where so much is to be learned from real observation, or where without it, so little to be comprehended, as in the diseases of tropical climates.

The Author therefore will be excused, for attempting to simplify this branch of medical knowledge, by minutely stating, in a plain, easy language, blended with no more theory, than what is absolutely necessary to throw light on his remarks, the result of his observations, during a period of eleven years constantly devoted to his Majesty's service in warm climates: the last six of these have been spent in the

West Indies, where the Author performed the duty of regimental-surgeon, and afterwards the more important office of superintending the military hospitals in Jamaica. When not called off by his military avocations, he also was engaged in a very extensive line of private practice in Spanish Town, at a time when the greatest sickness prevailed in Jamaica. From those opportunities he derived the observations, which with some diffidence he now presents to the public eye.

The first part of the work will give a general idea of the country, climate, and diseases of Jamaica, as the latter occur from local causes, combined with adventitious circumstances. This will prepare the Reader for what may be expected to be derived from the particular situation of the different military quarters, which forms the second part of the Observations.

Dr. Hunter is the only Author who has treated on the health of the military posts in Jamaica; and we are much indebted to him for the valuable information conveyed in his work. He however goes no further than explaining the effect which the different posts, and other circumstances, produced on the health of each regiment; without particularly describing those posts, or minutely tracing the sources of disease in each, as arising from local causes. An accurate knowledge of this subject, will enable the young practitioner to be prepared for the events he may expect, from the particular station of his regiment, on its first arrival in the island; to advise his commanding officer, how to obviate as much as possible the inconveniencies attached to that situation; and to treat the diseases that may come under his care, with that decision and confidence, which a previous

vious knowledge of what is to occur, will naturally inspire.

The third part, will shew the effect produced on the health of the troops by a combination of situation, particularity of constitution, the effects of intemperance, the difference of discipline and interior arrangements in each regiment, and by such other circumstances as are connected with the military service only.

The fourth, will describe the diseases which more frequently prevailed among British soldiers in Jamaica, during the Author's residence in that island, and the treatment which he found the most successful.

The last part takes into consideration the duties of a regimental-surgeon, more particularly in the West Indies; the management of the sick; and the arrangement of hospitals in Jamaica.

The

The whole, it has already been noticed, has been brought forward for the particular purpose of conveying information to the military practitioner, upon his first arrival in a tropical climate; it is therefore divested of all abstracted ideas, which too often rather tend to confuse or flatter the imagination, than to convince the mind, or compliment the understanding. A simple statement of facts, embellished with no other ornament but truth, the Author hopes, will carry home sufficient conviction to the Reader, to compensate for the omission of figurative language, the brilliancy of ingenious theory, or the more splendid display of medical learning.

Though the great object of the work has been explained, yet the Author flatters himself, that it affords some passages, which may not be deemed unworthy the perusal and consideration of the COMMANDER

IN

IN CHIEF, the LEGISLATURE OF JAMAICA, and the COMMANDING OFFICERS of regiments serving in the West Indies; and though, for the purpose of exposing error, he has been obliged to treat upon subjects, which are not perfectly congenial with his feelings, yet he carefully has avoided the expressing himself in a manner, that can convey the least personal censure on individuals; or that can imply on his part, the most distant intention of that nature,

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PRACTICAL

PRACTICAL OBSERVATIONS

ON THE

DISEASES OF THE ARMY IN JAMAICA.

CHAP. I.

*On the situation, climate, and diseases of
Jamaica.*

IT has been frequently remarked, and no less well authenticated, that since Great Britain has been in possession of West India colonies, every succeeding war in which they have been concerned, has afforded additional proofs of the dreadful mortality with which all our expeditions have been attended, and which our troops, under particular circumstances, must ever experience in a tropical climate. At the same time, it must be allowed, they have opened an extensive field for medical observation, and have furnished us with many useful lessons. How far we have benefited by them, it is

not my intention here to decide. It will be sufficient to remark, that the events of the present war have by no means been such as to convince us the mortality has been less; if we acknowledge the truth, it has been more extensive than in any of the preceding.

During the unparalleled sickness which of late years prevailed in the West Indies, the island of Jamaica experienced unusual mortality: for though it could not be considered the seat of active operations, yet from the great increase of the fleet, which at that period was stationed in Jamaica; the arrival of new-raised regiments sent out for its defence; the introduction of foreigners from St. Domingo, by which the houses of Kingston were crowded with strangers; the arrival of convoys at stated periods, bringing with them the seeds of disease produced by detention in European ports, long passages, and crowded vessels; and a number of other circumstances to which the war gave rise; the continued, or yellow-fever put on as frequent and formidable an appearance as any part of the
West

West Indies*. The morbid state of the atmosphere at one period, gave the remittent or common endemic a form and frequency that almost threatened the depopulation of the country; people of all ages, complexions, and countries, fell under its influence; among the natives or residents, very few families escaped some sickness; and the disease proved so fatal in Spanish Town and Kingston, that mourning at one time was with difficulty purchased. We may therefore conclude that Jamaica experienced as much, or perhaps more sickness in proportion, than any of the other islands, St. Domingo not excepted.

Though the object of these observations will be principally confined to the state of health of the troops during that melancholy period, yet (as I have promised) I shall previously introduce such general remarks on the climate of Jamaica, and the diseases to which it at all times exposes its inhabitants, as will serve to throw light upon the subse-

* I shall, in a subsequent part of the work, state my reasons for giving this disease the term of Continued Fever.

quent pages. At the same time, I do not profess to give a particular account of the face of the country, the soil, or the productions of the island ; nor do I mean to enter into a philosophical disquisition on the causes of the trade-winds, or of the earthquakes, or the hurricanes, to which the island is exposed. Such matter is foreign to the present subject, and has already been amply treated by the pen of Mr. Long ; in whose history of Jamaica, the reader will be fully gratified on such, as well as on many other topics connected with the island, and the West Indies in general. I shall merely confine my remarks to tracing the sources of disease, as depending on local or accidental causes, and as they actually exist in the island of Jamaica.

This island (it is well known) is situated between $17^{\circ} 44'$ and $18^{\circ} 34'$ north latitude, and between $75^{\circ} 55'$ and $78^{\circ} 48'$ west longitude, which renders it the most western colony Great Britain possesses between the tropics. It is of an irregularly oval form, being narrowest towards its extremities ; and lies indirectly east and west ; from one
point

point of which to the other, it is computed to be about one hundred and seventy miles, and between fifty and sixty in its extreme breadth. The interior is principally occupied by an assemblage of bold and lofty mountains, of various heights, shapes, and directions ; and intersected by corresponding vallies.

These mountains are chiefly covered with thick impenetrable woods, though many of them have been cleared and cultivated ; and the vallies are universally in a state of cultivation, except where from the nature of the soil they are incapable of being rendered useful in that way. The principal ridge of these mountains runs east and west, and forms a barrier between the north and south sides of the island, admitting of no communications, (if we except narrow tracks over the mountains,) but by two defiles of no very considerable breadth, which are commanded by adjoining heights.

The mountains afford plains on the south side, in some places of about eight or ten miles between their termination and the sea, in others not so much, and on the north

side the breadth of the plains is still less. Their extent therefore principally consists of their length, which, on the south side, is in some parts very considerable.

It is on these plains, or at the foot of mountains, that all the towns and villages are placed, except the negro towns the residence of the Maroons; which are situated on the highest, the healthiest, and, what in a political sense appears a little singular, the strongest positions in the country; at least in case of an attack, where the greatest resistance can be exerted.

It is now universally known, that the great source, or at least the remote or occasional cause of disease in a tropical climate, is the exhalation arising from the action of heat on moisture, which derives various degrees of power from different local circumstances, and by being received into a habit, under the influence of predisposing causes, produces disease.

The plains and sea-coast of Jamaica abound with the means of furnishing this cause of disease in its greatest force, from the following circumstances :

1. The

1. The action of a powerful sun on lagoons, or extensive pieces of stagnant water; affording growth to vegetable productions, and from which constant, moist, and unhealthy exhalations arise.

2. The exhalations of swampy ground, or earth which is constantly moist, without being covered with water.

3. The exhalations of muddy banks of rivers, which have been overflowed in consequence of the heavy rains, and afterwards exposed to the action of the sun:

4. The exhalations of flat land, near the influx of rivers to the sea, produced by occasional inundations, and the washing up of dead vegetable matter.

5. The exhalations of flat land of a quality to retain moisture, for a considerable time after the falling of the rains.

6. Another cause may be attributed to large tracts of land being covered with brush-wood, particularly in the Savannas; which from retaining moisture long, from the dead vegetable matter concealed in these small woods, and from their obstructed air, produce exhalations, which

give rise to disease in a bad form, particularly when they are first cleared, and the ground is more directly exposed to the action of the sun.

The cultivated parts of the plains consist of sugar estates and pens *, some of which from their flat situation, and the nature of their soil, are more or less unhealthy, so that it is only in a dry, sandy soil, that any part of the coast or plains is exempted from disease.

It seems to be a received opinion among physicians who have written on fevers, that fresh water which has a constant communication with the sea will not give rise to unhealthy exhalations. Though there certainly is a great share of truth in this remark, yet it cannot be admitted without some exceptions. Dr. Clark has observed in his voyages to the East Indies, that when in the warmer climates they were becalmed at sea, noxious exhalations have arisen, which produced among the men remittent fevers, bearing a near resemblance to what

* Pen is a provincial term adopted in Jamaica, and implies a farm.

occurs on shore ; and we have observed at Fort Augusta in Jamaica, which is nearly surrounded with water, part of which may be considered fresh, but subject to be mixed with the sea ; that when the sea has not come in with its usual force, exhalations have arisen, and rendered the garrison unhealthy, which otherwise is not sickly.

The inhabitants of the towns experience an additional source of disease, from the greater share of heat to which they are exposed, from their intemperance, the structure and aspect of their houses, the want of cleanliness in their streets, and from the influx of strangers to the sea-ports, more particularly during war*.

Having considered the island of Jamaica as far as it regards situation, and from that, the consequent production of disease, we are next led to inquire through what means the remote cause derives its power in this island, and what are the circumstances that predispose the body to receive and give it

* The mountains and interior of the country, it will afterwards appear, are in a great measure exempted from these causes of disease.

action. In this investigation, our attention is naturally directed to the climate, and the description of people who are subjects for disease.

There is no circumstance in which Europeans have formed a more erroneous opinion than on the climate of Jamaica, which, by strangers, has usually been considered of a nature to endanger the lives of those who reside in it, and the heat so intense as to materially lessen the comforts of life. It cannot be denied that this opinion is not totally without foundation; but it is too general to give it the decided authenticity of truth, since it has been formed by those who either have never visited the island, or who, from having only resided in the principal towns, have grounded their opinion upon the climate of those places.

In the plains and on the sea-coast, where, from interested motives, the largest proportion of inhabitants reside, it has already been acknowledged there are ample sources for disease, to apparently justify this general notion of the climate of Jamaica; though there are some situations on the plains
which

which are by no means unhealthy, and where even a newly-arrived European may reside without much risk to his health. But the interior or great bulk of the island, which is principally mountainous, furnishes retreats to a number of the inhabitants, who probably enjoy better health than they would experience in any part of Europe. I shall therefore first consider the climate and diseases of the plains and sea-coast, and afterwards direct my remarks to what may be more properly attached to the mountains.

CHAP. II.

On the climate and diseases of the plains and sea-coast.

THE north side of the island, from being more mountainous, its plains occupying a very small distance from the sea, and from its being directly exposed to the north winds, experiences a great difference of climate and seasons to what distinguishes the south. The rains in the former are much more frequent, and fall at less regular periods than in the latter, while, from the vicinity of the coast to the higher mountains, the atmosphere is rendered cooler, and receives more frequent concussions and changes from the thunder and lightning that so constantly prevail, and with so much more force in the north; and these circumstances all contribute to render it less productive of disease in that fatal form, which is so frequently to be observed on the south side.

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There is, however, with respect to health, a great difference in situation even on the north side; since some of the sea-ports have occasionally proved very fatal both to the inhabitants and newly-arrived Europeans, while others have been uniformly distinguished for their salubrity. If we except the continued fever which, during the late sickly period, visited every part of the plains on the sea-coast, fevers are much more disposed to assume the intermitting type and appear in a milder form than on the south side, where from the plains being more extensive, and from their giving situation to the two principal towns, tropical diseases appear in their true character and greatest malignancy. I shall therefore enlarge more considerably on the climate and diseases of this part of the island, where there is the greatest field for observation.

Jamaica, like other insular situations between the tropics, is more or less regularly visited by the easterly wind or sea-breeze, which sets in between the hours of eight or ten in the morning, increases as the sun approaches the meridian, and gradually dies
away

away as he advances to the westward, until it is succeeded in the evening, but at no fixed hour, by the wind from the mountains, which blows towards the low lands in every direction.

It is now clearly understood, that the winds in these climates are influenced by the action of the sun, and that they follow his course from east to west. At a few miles from the shore, and in those islands which are not mountainous, this influence continues after the sun has passed the horizon, and the sea-breeze blows the whole night ; but in the islands where the land by its height gives rise to a condensed state of the air, the sea-breeze gradually loses its force, as the sun approaches the westward, till it is at last overcome by the air of the mountains, which rushes down upon the plains, and forms what is termed the land-wind.

Life could not be long preserved in the plains and on the sea-coast without the sea-breezes, which by their action render the inhabitants less sensible of the intense heat to which they are exposed, and prevent a stagnation of air, which, if long continued
in

in this climate, would be destructive to animal existence. The sea-breeze is however by no means regular as to the period of its setting in, its force, or duration; since it sometimes does not commence until twelve, one, or even two o'clock in the afternoon; at others it blows with little force, or fails altogether, and is superceded by the land-wind; and sometimes it blows very strong the whole night.

The sea-breeze seldom blows direct from east, but from a point to the northward or southward of that quarter; the former is properly considered the prevailing and trade-wind, and is that which proves the most refreshing to the inhabitants. When it blows from the southward of east, the heat of the island is much increased, and it is often a forerunner of rain.

Owing to the situation of the island, which does not lay directly east and west, the trade-wind is interrupted in its regular course by the eastern extremity, which, by laying to the southward of east, occasions the inhabitants on the south side to receive
the

the breeze immediately from the southward, though its natural course is from the northward of east. The wind from the north-east at Kingston or Spanish Town is usually a partial land-wind, conveying an increased heat, and is generally considered unhealthy; well known to the inhabitants by the name "Rock-wind." Particular situations in the island will also be variously influenced as to the sea-breeze, which by blowing over a tract of hot land, rather increases than diminishes the sensation of heat; while in others, the sea-breeze is more frequently superceded by the land-wind. These circumstances must no doubt produce different effects on the health of the inhabitants.

In the plains or on the sea-coast, the thermometer does not vary more than eight or nine degrees in the middle of the day during the year, its highest range being about 92° , and lowest 83° or 84° , at that period. In the nights there is a considerable difference, the thermometer in the months of July and August seldom falling lower

lower than 85° , while in December, January, and February, it sometimes sinks down to 68° or 70° .

The intense heat of the plains may certainly be considered a cause powerfully predisposing to disease, as also the transitions in the temperature of the air.

For some nights the land-wind will come down with considerable force and coldness; at other times it quite fails, the air is close, oppressive to a degree, and occasions in most people a wakefulness; and to others of particular constitutions, a variety of disagreeable, nervous sensations.

The days are subject to similar transitions. The sea-breeze, when it blows in its regular track, refreshes the body, exhilarates the spirits, and enables the inhabitants to bear the most intense heat without any considerable inconvenience. But when it blows from the southward, or, what is often the case, fails altogether, the atmosphere is more frequently loaded with moist vapours, in the form of low clouds; the air is highly oppressive, the spirits are depressed, and such a temporary relaxation, both mental and

corporeal, is often induced, as to render many people, otherwise active, nearly unfit to go through even the common duties of their employment. It is this kind of weather which prevails previous to the setting in of the seasons or heavy rains, and by its relaxing tendency, no doubt, subjects the body to that fatal form of disease which occurs after that period.

Earthquakes, after very dry, hot weather, sometimes occur in Jamaica; and it is well known have formerly been productive of great mischief. During my residence in the island I felt three smart shocks, but not attended with any serious consequences; and I was informed they had not occurred so often as formerly. How far they affected the general healthiness of the air, my observations did not furnish me with sufficient materials to decide, though it is a prevailing opinion, that the atmosphere is influenced by these concussions of the earth.

It is singular that the lightning, which in this island (particularly on the north side) is more frequent and abundant, should in general be productive of less mischief than

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in Europe. The accidents which it occasions, are trifling both in their frequency and consequences, to what happen in many parts of Europe. Thunder and lightning certainly seem to contribute to render the air more healthy; for in those seasons which have proved the most sickly, this phenomenon has been less prevalent; and perhaps the diseases at the latter end of the year are in some degree rendered worse, by the more frequent failure of lightning in the autumnal rains.

Having made these general remarks on the climate of the plains, I shall enter more particularly into the weather, and the diseases to which it gives rise at the different periods of the year.

From the middle of December to the middle of April, dry weather usually prevails, if we except a few transient showers, which sometimes fall about Christmas.

The months of December, January, and February, are more or less subject to north winds, which blow directly from the continent of America, and sometimes with considerable force and coldness. Their time

of setting in, or duration, is by no means regular or certain; for sometimes they occur early in December, and continue only a short time: at others they will blow from that period with some little variation until February; while there are particular years when they have not set in until the beginning, or middle of January. They are occasionally attended with rain and hazy weather, but more frequently with a clear, dry atmosphere: the former, or what is termed the wet norths, are generally very unhealthy, and productive of remittent and intermittent fevers, colds, ulcerated sore throats, and bowel complaints: the latter, or the dry norths, (if we except elderly people, and others with delicate constitutions, who are more readily affected by a colder atmosphere,) are usually conducive to health, by checking and giving a favourable turn to the diseases occasioned by the preceding rains.

At this period of the year the sea-breezes are but weak, and, in the absence of the norths, are more usually superceded by strong land-winds, which blow both day
and

and night; and though not in a great degree productive of disease, yet in the day they are not so refreshing as the sea-breeze, and in some situations, from passing over tracts of swampy or wet land, they give rise to a frequency of fever.

The thermometer, during these three months, is commonly from 83° to 85° in the middle of the day, but at night, or rather very early in the morning, it falls sometimes so low as 68° , and seldom rises higher than 78° .

The month of December, if the autumnal rains have set in and terminated early, may be considered healthy, and favourable to the arrival of Europeans. If otherwise, fevers are apt to put on the same form, and are as frequent as in the preceding month*.

In January the norths have usually set in, the weather is dry, the effects of the rains have nearly ceased, and fevers, when they occur, are generally of the intermitting type,

* November, it will shortly be explained, is the most sickly month in the year.

and readily give way to the common mode of treatment. Convalescents, or patients with obstinate intermittents, which commenced during the more sickly months, (unless they are too much reduced,) usually begin to recover during the month of January, and by February or March are re-established in their health. Fevers of the continued form seldom are observable at this period of the year; so that from January to April may be considered most favourable to the arrival of Europeans, or the conducting of any active military operations in the West Indies.

In March the weather is dry, the land-wind usually very strong during the night, but is succeeded early in the morning by the sea-breeze, which blows in its regular track with considerable force; which circumstances certainly render this the most healthy and pleasant month in the year. The thermometer varies but little in the middle of the day from the preceding months, but in the morning it is observed to range a few degrees higher. This kind of weather continues until about the middle

of April, when the sea-breeze either fails, or blows from the south-east, and renders the air in the middle of the day very oppressive. Heavy clouds begin to collect on the tops of the mountains, whence there frequently fall transient showers; and these appearances are certain presages of the succeeding rains, which generally come on in May. The thermometer, about the middle of the day, approaches 86° , and in the morning early varies from 75° to 80° . Such weather, though not always unhealthy, induces great relaxation, and in those who have been much reduced by former attacks of fever, it frequently brings on a return of their complaints.

May is the month in which the spring seasons or rains are expected. The hot and oppressive air, which distinguished the month of April, continues increasing, until the heavy rains commence, and this sometimes happens at the beginning, but more frequently about the middle of the month. They first come from the mountains, in heavy and repeated showers, and afterwards from the south-east, in constant torrents, accompanied by much

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lightning,

lightning, and tremendous peals of thunder. The rains in May are heavier, though not so lasting as in October, a fortnight or three weeks usually finishing their period.* The heat is now much increased; the thermometer varies at noon from 85° to 88° , and seldom falls lower in the morning than 80° . The month of May certainly cannot be considered healthy, since the rains, and the hot oppressive air to which they give rise, induce general relaxation, and serve to ag-

* From not possessing the means or time, to measure and make daily observations on the quantity of rain that may have fallen within a given period in Jamaica, I am prevented from conveying such information to my readers; but I conjecture, that by placing the quantity that falls within the eight or ten wet weeks out of the year in the plains of Jamaica, against one year's fall of rain in England, it will be found there will be no great difference in the quantity. This comparison will give a pretty accurate idea of the force and weight of the falls of tropical rains. In the mountains, which are exposed to much more frequent rains than in the plains on the sea-coast, the quantity of water that falls throughout the year is considerably greater. My observations on the thermometer are pretty correct; since I kept one on Fahrenheit's scale (properly regulated) constantly in my house, to which I regularly resorted, every day, at the proper hours for making observations.

gravate

gravate the complaints of those who are already indisposed. Affections of the bowels are also more observable during wet or damp weather, than at any other period; and this is commonly attributed to the water procured from the rivers, which on these occasions receive a quantity of filth and dirt, forced down by the heavy rains from the mountains. Much pains were taken by myself, and other medical gentlemen, to ascertain what share this water might have in the production of bowel complaints: on this account the commanding officer of the regiment to which I was surgeon (at my recommendation) purchased drip stones, for the purpose of affording the men an opportunity of using pure water for their common drink. Upon trial, we did not find any material difference in the number of cases that came under our care; so that we naturally attributed the principal cause of the disease to arise from a damp atmosphere.

The month of May is however not distinguished for the frequency of fevers, except in those who were in a state of convalescence,

lescence, or who had lately been subject to attacks of that disease. The rains, indeed, rather seem to suspend the progress of fever, and reserve it for the aid of a more powerful agent, the solar influence, which in the month of June produces exhalations, that render it universally sickly.

In this month the weather is clear, hot, and dry, with a failure of the land-wind at night, and regular strong sea-breezes during the day. The sky is seldom obscured by even the appearance of a cloud, and the heat, though more intense, is not so oppressive as in April or May, when the sea-breezes have failed. The thermometer between May and June varies but little, and the difference is frequently not to be observed. The preceding rains usually give rise to fevers of the remittent and intermittent type in June, which of course are more or less fatal in proportion to the quantity of rain that has fallen, and the degree of heat to which the ground may be exposed; but they seldom put on so bad a type and frequency as after the October rains. Fevers of the continued form also
sometimes

sometimes occur in June among newly-arrived Europeans, but they are by no means so frequent or fatal as in the succeeding months.

July, August, and September may be considered the hottest months in the year. The thermometer has, within my observation, risen so high as 92° at noon in Spanish Town, and in the morning it seldom falls lower than 83° . The nights are uncommonly sultry and oppressive, from the failure of the land-wind; the days are intensely hot, but from the strong sea-breezes which prevail in these months, not so oppressive as in some of the cooler months, when the rainy seasons are approaching.

July and August, for a few days in each, are subject to transient showers from the mountains, with thunder, which in general are not productive of disease; otherwise they vary little from the preceding month. In constitutions already assimilated to the climate, these months give rise to cholera morbus, and other bowel complaints, from an increased secretion of bile; to spasms, headaches, and various other symptoms produced

produced by dyspepsia, or by an obstructed liver; to a few cases of hepatitis; and to weakly constitutions, great relaxation of the whole system. Fevers are by no means prevalent during these months, except after an unusual exertion and exposure to the sun, when they are more disposed to run into a form, in which remissions are very indistinct, and difficult to be induced: however, to the newly-arrived European, these months prove the most unfavourable and fatal. Their intense heat acts as a powerfully predisposing cause of fever, while it at the same time serves to concentrate the remote cause (marsh miasma) to a degree that, in constitutions not assimilated to the climate, more frequently produces fever in the continued form. It was in the month of August that I first recognised a case of the continued endemic, to which the indefinite appellation "Yellow Fever" commonly is given.

From the latter end of July to the commencement of November, is the period usually distinguished by the appellation of hurricane months; for when the air sustains
that

that violent commotion, which in the West Indies we distinguish by the name "Hurricane," it happens between July and November ; and although it does not regularly and necessarily take place every year, or but seldom in many years, yet as it always happens within little more than a month of the autumnal equinox, its essential cause must be found in something peculiar to that period. As I had the good fortune not to witness any of those convulsions of nature, I can have no remarks to make on the subject. They have been fully described by several authors, who were in the island at the time they occurred ; but I observed more blowing weather prevailed in those months than during any other time of the year.

About the latter end of September, there is the same close, oppressive weather, with a moist atmosphere, which distinguishes April, the usual presages of the seasons ; and this continues until October, when the autumnal rains set in ; yet they are by no means regular in their time of occurrence, as they will sometimes commence at the
latter

latter end of September, and at others not until near November: however, about the commencement or middle of October is the period when they may be usually expected.

They generally set in by heavy showers, at different periods of the day, from the mountains, accompanied with a land-wind, which afterwards gradually veers round to the south-east, and brings such constant and heavy torrents of rain from the sea, as sometimes to wash down bridges, huts, and every thing not fixed upon the firmest basis, that comes within their sweep. The thunder is not generally so loud, nor the lightning so prevalent in these as in the May rains.

The autumnal rains continue with but little intermission or variation for several days and nights, and induce such a stagnation in the air, as often to affect respiration, and occasion a listlessness and lowness of spirits. With the occasional intervals of a few dry days, this weather continues until the middle or latter end of November, making altogether a period of about four or
five

five weeks; it is then succeeded by the norths, which give rise to a change.

The thermometer in October and November differs in the middle of the day about three or four degrees from the preceding months, but in the morning early it falls at least six or seven degrees lower, and the nights are subject to stronger land-breezes, and are consequently cooler.

It is during the month of November, and part of December, when the ground has been previously saturated by the heavy rains, that, by the action of the sun, the upper surface begins to crack, and forms a passage for unhealthy exhalations, which proves the most sickly period for all descriptions of people.

The continued or yellow fever appears sometimes at this period among the newly-arrived Europeans, though the disease generally, about this time, puts on the remittent and intermittent forms, in their worst type, which are prevalent among all descriptions of people, but more especially among the lower order of white inhabitants; in many of whom these forms of the disease have been

been so rapid in their progress as to prove fatal in three days ; for although an intermittent at first may seem to assume a mild type, yet it will frequently happen that the patient, after having taken large quantities of bark, shall sink at the termination of the second or third paroxysm.

The remittent is usually, at this period, of the double tertian type, frequently with anticipations, as in the semitertian, and often running from one form to another so rapidly, as to admit of but little distinction.

Dysenteric and bowel complaints are less frequent during these months, than at the period of the falling of the rains, or at that season of the year when the remittent puts on a more favourable type ; and they appear to be a milder form only of the endemic, since they are frequently combined with it, and the two diseases often change from one form to the other.

Having made these general remarks on the climate of the plains, it is necessary to observe, that, notwithstanding what has been noticed, the seasons or rains will often vary,

as to their period of commencement, force or duration, and sometimes fail altogether. The sea and land-breezes, do not always occur in the order they have been mentioned; and the heat, in some years, has been nearly as intense in December, as in June, or July. This must necessarily produce a difference in the state of health and diseases, which renders it impossible to set down a fixed rule for their time of occurrence or form. These remarks will therefore only serve to give a general idea of what may be expected from the climate of Jamaica in ordinary years.

C H A P. III.

On the inhabitants of Jamaica, as far as it regards the degrees of health they enjoy in that island.

THE white inhabitants, as far as it regards the degrees of health they enjoy in Jamaica, may be classed under four heads.

The first, are the natives, or Creoles. These may of course be considered the most healthy description of people in the island, since their constitutions are naturally assimilated, (we may indeed add) formed for the climate. They are, however, by no means exempted from sickness. At particular seasons they are subject to intermitting fevers, which, though not so frequent or fatal as among Europeans, yet such diseases sometimes give rise to obstructions of the viscera, which oblige them to have recourse to an European climate.

There are few of the natives in the plains, who are not subject to those diseases which are attached to a relaxed habit, such

as

as nervous headaches, spasms of the stomach, and more particularly dyspepsia. The females, from their reclusive life, (for they seldom leave their houses but in their carriages,) experience such complaints in a more aggravated form ; for the same cause gives rise to a frequency of hysteria, a redundancy of the menstrual flux, and, in almost all, a disposition to uterine weaknesses. Their thin, spare habits, pallid complexions, and the universal languor which accompanies their whole demeanor, are strongly expressive of their habits being relaxed, and not accustomed to exercise.

The second, are the higher order of Europeans, who have resided some time in the country.

Under this head, may be ranked the members of the different professions of divinity, law, and physic ; the proprietors, or attorneys for properties ; the officers of the different civil departments ; the first description of merchants ; and the respectable clerks in offices and counting-houses.

This class, after being assimilated to the climate, will for a certain time enjoy nearly

the same share of health as the natives. Their sickness however, when it occurs, is of a more serious nature than the former, as they are subject to remittent and intermittent fevers with a worse type, to a more rapid affection of the viscera, and to all the diseases of a relaxed habit, in a far greater degree. The intemperance which, with some exceptions, is prevalent both among the native and European inhabitants of the towns, contributes, no doubt, to hasten the production of diseased viscera; and by far the greater proportion of Europeans, after a residence of eight or ten years, and in some instances a much less period, are obliged to return to their native country, on account of their health.

The third, are the lower order of Europeans, who have resided some time in the country. These are principally overseers and book-keepers of properties, under-clerks in counting-houses and offices, the lower class of tradesmen, mechanics, and the various handicraftmen *. This description of

* It is to be understood, that many of the overseers and book-keepers, who are men of respectability and character, are not included in this class.

people are to be considered in general as enjoying a much smaller degree of health than either of the former ; since, from their mode of living, and the nature of their occupations, they are much more exposed to disease. The destructive use of spirits, which too generally prevails among them, and the constant fatigue in the sun, to which many of them (particularly the overseers and book-keepers of properties) are exposed, serve to shorten the lives of a great proportion of these people.

The remitting and intermitting fevers to which they are so frequently subject, if they do not immediately prove fatal, very soon terminate in diseased viscera and its consequences. Violent dyspeptic symptoms, obstructed liver, and dropsy, all produced by the habitual use of the worst description of spirits, are among the diseases which belong to this class ; and there are few in whose countenances such diseases may not be traced ; and though many of them, who from prudence and a good constitution enjoy better health than others, yet the greater proportion (if we except those who have

been able to purchase and reside on properties in the mountains) die before they have been many years in Jamaica.

The fourth, include all descriptions of Europeans lately arrived from a cold climate. These are in a far greater degree the subjects for tropical diseases, in their worst form, than the others; since a great proportion die in the act of assimilation, or seasoning to the climate; others have their constitutions so much impaired, as to be obliged to return to Europe; and few escape, sooner or later after their arrival, a severe fit of sickness. The diseases to which they are more particularly exposed at this period, are fevers of the continued and remittent form; which are rendered worse by particular constitutions, modes of living, and other circumstances peculiar to the occupation or employment of this description of people. The higher order of Europeans are therefore likely to fare better than the others; and the prudent, with rather a spare habit, than the intemperate, who are gross, full, and plethoric.

It seems to be a prevailing opinion, that the act of assimilation, or seasoning to the climate, depends upon the individual's experiencing one, two, or more distinct attacks of fever; and that, without he has undergone this trial of his constitution, he is not to consider himself, on the score of health, on a footing with those who are supposed to be assimilated to the climate. This idea is in a great measure erroneous, since my own experience has afforded numerous instances of fever proving fatal to people under such circumstances, which, from the symptoms, might fairly be attributed to their still possessing too much of the European constitution. At the same time it must be allowed, that the debility induced by fevers, and the evacuations which the patients undergo in the treatment, contribute to produce some change in the constitution: but it is the relaxation induced by a residence of a certain period in the West Indies, and being constantly exposed and habituated to the remote cause of fever, that gives a more permanent security against a serious attack of this disease.

The effect of habit, is strongly exemplified in those people who reside in the midst of swamps, and other unhealthy places ; who, if they escape a fit of illness on their first going to those places, are usually exempt from fevers ; while others, who inhabit dry healthy situations, are more or less certain to experience a fit of illness, upon removing to places, which are different to those in which they have been accustomed to reside.

The period after the arrival of an European, when this assimilation is supposed to be effected, cannot with any degree of accuracy be determined, since it will vary in different constitutions. Some have resided a great many years without experiencing a symptom of fever ; others have been subject to frequent attacks during the first six months, and afterwards have enjoyed a tolerable share of health ; while there are instances of people, who, after two years residence, upon any extraordinary exposure to the sun, or on the changing of the weather, have experienced attacks of fever ; and many are obliged to return to Europe, on account
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of the impossibility of their enjoying health in a tropical climate. We may, however, set it down as a certain rule, that in proportion to the length of time Europeans have resided in the climate, the diseases to which they are exposed will be less formidable; and if, after a residence of two years, they are still subject to frequent recurrence of fever, they may not expect their constitutions will ever be assimilated to the climate.

The description of people to whom the climate proves the most favourable, are those Europeans who have been subject in their native country to scrophulous, rheumatic, or pulmonic complaints; to persons of a spare, but not weakly habit; and more particularly to such as have passed the meridian of life; it being an observation founded on experience, that individuals who enjoy good health at the age of forty-five or fifty, in a tropical climate, will probably live to a greater age in the West Indies, than in their native country. This climate seems also to agree with the constitutions of children, who, during the state
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of infancy, are usually stouter, and are subject to fewer diseases, than those of Europe. They are likewise observed to discover earlier marks of comprehension and intellect, and have more natural vivacity, than children in Europe ; but after the age of four, five, or six, they fall off in these particulars, become weakly, relaxed, and languid, and acquire the features of constitution peculiar to natives of warm climates.

CHAP. IV.

Diseases of the plains and sea-coast.

A DISTINCT history of all diseases to which the human body is liable, in countries between the tropics, as well as in all other countries, cannot be expected in a work which is principally intended for the perusal of the military practitioner; therefore it must suffice, that those diseases only to which the peculiarity of the climate give rise be mentioned; and as a particular account of the diseases, as they occurred among the troops, will be the subject of a subsequent chapter, the following remarks will be chiefly confined to general observations*.

The diseases which may be considered peculiar to the plains and sea-coast of

* Soldiers, sailors, or negroes are not included in any of these remarks, except where they are noticed as a distinct description of people.

Jamaica, are fevers of the continued, remittent, and intermittent form ; colica pictorum, or dry belly-ach ; cholera morbus ; diarrhœa ; and dysentery ; hepatitis ; ulcerated fore throat (particularly among children) ; dyspepsia ; obstructed viscera from former disease, or a long residence in the climate ; dropsy, tetanic affections, and a general relaxation of the system, without any marked disease. The latter is observable in the persons, complexions, and general appearance of nearly all the inhabitants of the plains, but more especially in those of the towns. It is true, individuals with a more healthy aspect than others are sometimes to be observed ; and those may be an exception to this assertion ; but the generality convey to an European more the idea of persons who have just escaped a dangerous fit of illness, than possessing the true characteristics of health.

There are other diseases to which the inhabitants are occasionally exposed ; but as these are common to all climates, and do not seem to derive their source from any thing peculiar to a tropical one, they do
not

not properly become the subject of the present observations : it however ought to be noticed, that the variety of inflammatory complaints and their consequences, phthisis pulmonalis, scrophula, together with hypochondria, and a number of other nervous affections, more peculiar to the inhabitants of Great Britain, seldom appear here but in the mildest form, and may rather be considered rare occurrences ; and that if the inhabitants of this climate are frequently exposed to dangerous fits of illness, they seldom continue long under their influence, the fatal or favourable termination being usually rapid and decisive.

The colica pictonum, or dry belly-ach, may very properly be considered an endemic of Jamaica ; but though I have heard of cases occurring during my residence in the island, my own experience did not furnish me with a single instance of that disease, and I am convinced it is by no means so frequent or fatal as formerly.

The hepatitis, or active inflammation of the liver, does not seem so peculiar to Jamaica as to the East Indies, where few
Europeans

Europeans escape its attacks. I did not observe more than two or three cases, which I could fairly consider to be of that species. It is the slow-kind, or inflammation of the venous system of the liver, that more frequently occurs in Jamaica, and much oftener than is usually suspected. There are indeed few diseases that resist the common treatment, which are not connected with an affection of the liver; and they are often accompanied with such ambiguous symptoms, as to excite but little suspicion of the liver being affected, until the fact has been ascertained, by a recourse to those remedies which are principally adapted for the removal of such affections.

The ulcerated sore throat may more properly be considered an occasional epidemic, than an endemic of Jamaica; since, though it often occurs, its appearance is not confined to any particular season or period, but probably depends upon certain changes in the atmosphere. Though adults are not exempt from its attacks, yet it is much more frequent and fatal among children, in whom it is of that species which depends

upon, or is accompanied with, a want of power in the muscular system : it is therefore most successfully treated with bark, wine, blisters, and all stimulants. It is on this account that the capsicum given internally, and used in gargles, frequently acts so as to be considered a specific in this disease.

Tetanic affections are certainly endemical to tropical climates ; but I observed they occurred much more frequently among negroes than the white inhabitants. Eleven amputations were performed in the 63d regiment at Up Park Camp within a short period of each other, not one of which gave rise to a locked jaw, and only one died, who had been much reduced before the operation. I do not infer from this, that amputations will always succeed in Jamaica ; experience informs us that they frequently fail ; I merely wish to prove, that the tetanus is not so frequent among the white people, as has been generally represented, at least as far as my observations on that subject extend. Among the negroes, I saw numerous cases of it produced

duced by wounds, or by checked perspiration, the consequence of exposure to the night air, and laying on wet ground. When it arose from the former cause, that is from wounds, I do not recollect an instance of its being treated successfully. The latter species of the disease sometimes terminated favourably, by a combination of the usual modes of treatment adopted for the cure of this disease, which were often so blended with each other, as to render it difficult to decide which plan had the most merit in the cure. The alternate use of the warm and cold bath, I was informed by some medical gentlemen of the country, had succeeded in a few instances. But it was by the combined application of mercury, bark, wine, and opium, administered in proportions, which on less important occasions would have been thought rash and unsafe, with the external application of the most stimulating liniments, that those patients recovered who fell under my care. It is equally a matter of notoriety, that the *trismus nascentium* is principally confined to the negro children. To what are we to
attribute

attribute this phenomenon of the negro constitution, being so much more exposed to tetanic affections of all kinds, than the white? We have hitherto made such little progress in investigating the economy of the nervous system, that this, with many other circumstances equally ambiguous, must continue unexplained until our physiological inquiries have thrown more light on this important subject.

The small-pox and measles appear frequently as an epidemic in Jamaica, and often in a fatal form. In this case they are usually distinguished by those symptoms which denote a want of power in the vascular system. The measles, when they prove fatal, are marked with an uncommonly morbid state of the bowels, which become in that event gangrenous. Inoculation for the small-pox is however usually a very successful operation in Jamaica, even among negroes, who, it is well known, cannot be always compelled to adopt the strictest regimen.

The lues venerea is not frequent, and, I think, not so formidable, among the white

inhabitants, as in Europe ; and seems more readily cured by a combination of aperient sudorifics and mercury, than when the latter is administered without the former. The sarsaparilla and decoction of the woods, in this case, become an useful auxiliary, and in some habits the Peruvian bark seemed to accelerate the cure. That symptom of it, which may more strictly be considered local, viz. Gonorrhœa and its consequences, sometimes however proved very troublesome and perplexing to the practitioner, and when it terminated in a gleet, or diseased state of the urethra, frequently required a change to a cooler climate, to effect a cure.

The gout, rheumatism, calculous affections, the true scurvy, or what are termed scorbutic blotches, though they do sometimes occur, are not frequent or formidable in Jamaica.

The true typhus fever is also a rare disease ; nor do I recollect a case, which I could fairly class under that head.

The cynanche trachealis, commonly called the *croup*, sometimes appeared among the children

children in Spanish Town, and if not immediately relieved, generally proved fatal. Its most successful treatment consisted of topical or general bleeding, immediately opening the bowels by laxative glysters, giving an emetic which operated quick and effectually, putting the patient in the warm bath, the inhaling of emollient steams, blistering the throat, and administering such medicines as promoted expectoration, and determined to the skin.

Females menstruate earlier, more copiously, and at more frequent periods, in this climate, than in Europe; they of course arrive sooner at puberty, and at the period of the cessation of the menses: they are at the same time very subject to uterine weaknesses, and to those diseases which depend on a relaxed habit. From the few instances of scrophula, or ricketty children, (the Creole women being seldom deformed,) and from their relaxed habit, women in this climate, go through the process of parturition without much risk, and cases of difficult labour but seldom occur.

Mania, or idiotism, except when it is the consequence of fever, is by no means so common in this climate, as in that of Great Britain; and though instances of hydrophobia do sometimes occur, yet not so often as might be expected in a warm climate.

Ulcers in the plains are seldom difficult of cure, and are more properly an endemic of the mountains. Blind people are not numerous among the white inhabitants of Jamaica, though the negroes seem equally exposed to affections of the eyes, and their consequences, with Europeans in their native country. This arises probably, from the former being less subject to general or topical inflammation than the latter, who are as frequently attacked with inflammatory complaints, as the inhabitants of a colder climate.

Having enumerated the diseases which are more peculiar to the plains and sea-coast of Jamaica, I shall next make a few general remarks on the climate and diseases of the mountains.

CHAP. V.

On the climate and diseases of the mountains.

THE mountains, it has been observed, form by far the largest proportion of the island of Jamaica, and are of various heights, shapes, and directions. The vallies which intersect them, and correspond in their direction, are of different degrees of breadth, from what appears to be only gullies formed by the heavy rains, to that which nearly approaches to the character of plains. The whole forms at once a grand, sublime, and majestic appearance; in some parts conveying the idea of immense circular heaps of earth, or rock, carelessly thrown up by the hand of nature; in others, as if art, after extraordinary exertions, had succeeded in raising a wall, to serve as a permanent barrier between the north and south sides of the island; while, in many places, the country presents that pleasing

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variety

variety of plains and gentle slopes, which beautify many parts of England.

The mountains are universally in a state of vegetation, and are covered to their summits with trees of different kinds, in many parts by an impenetrable wood, and a great variety of plants, that open an extensive field for the investigation of the botanist.

It is singular to observe large and bulky trees apparently growing out of the solid rock, where the source of vegetation must be very limited, and only depending on small portions of earth, which the rains have not washed away from the crevices of the rock.

Those parts of the mountains which have been cleared and cultivated, produce coffee, cotton, pimento, and ginger, as articles of trade; and for the purposes of the table, tropical and most kinds of European vegetables in perfection; while the luxurious part of them is amply supplied with all the fruits peculiar to the country, and many of the superior kind of Europe. Among these may be mentioned the peach, the apple, and,

and, in the higher mountains, the mulberry and the strawberry.

In the higher mountains that are habitable, among which may be particularly mentioned Cold Spring, a very elevated situation in Liguanea, the air and soil seem unfavorable to many of the tropical productions; some of which will not grow in these situations, and others do not come to perfection; while many of the European fruits and vegetables are raised with the greatest facility, and differ but little from those produced in their native country.

We may indeed observe, that both vegetable and animal life puts on here a very different appearance to that which distinguishes the plains; and the same vegetables and fruits which grow in both places, come to a greater perfection, and I think we may even add, trees of the same kind acquire a greater bulk in the mountains, than in the plains. But there is a wonderful difference between the general appearance of the inhabitants of the mountains, and those of the plains of Jamaica. The former have a ruddy, healthy complexion, with great marks of muscular activity;

activity ; while those of the plains, are pallid, flabby, languid, and, comparatively speaking, much enervated.

The highest land in Jamaica is distinguished by the appellation of the Blue Mountains ; and though attempts have been made to ascend the peak*, yet we have not heard of any one having succeeded ; the condensed state of the air, and the difficulty of access, having always proved insurmountable obstacles to the accomplishment of this undertaking.

Those mountains which are inhabited, afford climates of different degrees of temperature, from that of the winters of Gibraltar, and the southern parts of Europe,

* This peak is called *John Crow Hill* by the negroes, because they believe it to be the resort of the Turkey buzzards, which they distinguish among themselves by that name : it may be here remarked as being curious, that these birds, which abound at Jamaica, are not to be seen in St. Domingo, though these islands do not lay many leagues asunder. These birds are so useful in devouring the bodies of animals that may die in the fields or on the roads, which from the nature of the climate would soon become intolerably offensive, that the Legislature of Jamaica has passed a law to prevent their destruction.

to what approaches the nearest to the plains in Jamaica.

Though but a small, faint share of the sea-breeze is experienced at any time in the higher mountains, yet the air is never oppressively hot, nor such as to endanger the health of those who expose themselves to its influence. Their evenings, nights, and mornings, are universally cooled by strong land-breezes, which, from not conveying the exhalations of swampy or wet lands, are seldom productive of disease. In many of these situations, the air is so cold, as to render a fire in the middle of the day, and always at nights, absolutely necessary; and blankets (an article hardly known in the plains) are the regular part of the bed furniture of their houses.

Every part of the island is exposed to the periodical rains of tropical climates, which, in different situations, vary in their time of occurrence, force, and duration; but in the mountains, there also fall frequent and heavy showers throughout the year, accompanied with much lightning and tremendous thunder: the former certainly contributes to
preserve

preserve a constant vegetation, and to supply those numerous springs, which afford the inhabitants excellent water, and form rivers in the plains; the latter, by the frequent concussions the air derives from their prevalence, probably assists in rendering mountainous situations so much more healthy, than those on the plains and sea-coast. It however must appear evident, that such frequent showers cannot be productive of disease, since the water always runs off through the gullies and vallies towards the plains, and therefore seldom remains long enough to give rise to exhalations.

The vallies, where they admit of cultivation, are usually laid out into sugar properties, or pens, in both of which they are generally very productive: the temperature of the air is of course warmer than in the mountains, but more cool and healthy than in the plains or on the sea-coast.

The diseases of the mountains are so few, and of so little importance, as not to require a distinct description. They principally consist of mild remittent and intermittent fevers,

vers, slight inflammatory affections, and, among soldiers and negroes only, very troublesome ulcers. The inhabitants however, upon visiting the plains, are more susceptible of the diseases peculiar to those parts of the island, than the constant residents: we may therefore conclude, that could the inhabitants of the mountains and interior of the island, avoid all communication with the low lands and sea-coast, it is probable they would enjoy a greater share of health there, than in any other part of the world.

CHAP. VI.

On the military posts in Jamaica.

THE choice of situation for erecting barracks, or the accommodation of troops in the West Indies, has by no means received the attention it merits. In Jamaica, where little is left to the direction of government at home, or to the commander in chief, this observation is more particularly applicable; for though the Legislature of that island, has voted sums of money fully adequate to the purpose of defence, and with a liberality which does honour to its proceedings, yet confiding too much in the integrity and judgment of its own servants, and entrusting too little power or discretion to the commander in chief, to whom the sole direction of all military arrangements should be left, the mode of defence adopted, has been carried on upon a confined scale; and has rather had local defence in view, than the general security of the island; large
sums

sums of money have been expended in erecting barracks for the two principal towns, and some few unimportant places on the sea-coast; while the great bulk of the island, the mountains, and the interior, which admit of being defended with half the expence, and so as to render the island impregnable, both to foreign and internal enemies, have been left perfectly defenceless, and to serve as a retreat, or a rallying point, for rebellious negroes. The late Maroon war, with the present depredations, and difficulty of apprehending the runaway negroes, and every evil of that kind which has happened in Jamaica, are so many incontrovertible proofs of the truth of this assertion.

It is to this cause that we are to attribute the great sickness and mortality of our troops in that island; and while it exists, though particular seasons, or circumstances, in each regiment may vary the degrees of sickness, yet these will never be of such importance, as to make any material difference in the aggregate of sickness and deaths among the troops.

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While the foldier is ftationed in the towns, and moft unhealthy parts of the ifland, where he is not only expofed in common with others to the ficknefs of the fpot, but from being in general lefs provident than men in the private walks of life, the heat and opportunity prove fo many additional inducements to intemperance; the moft judicious military arrangements, or the beft exerted medical fkill, will avail but little in the prefervation of health, or the prevention of mortality; the ifland will ftill have to lament the fcanty means of defence it derives from the military eftablifhment, and government be obliged to expend immense fums of money, in furnifhing recruits and men, to very little advantage. It is therefore my intention to be very full on this fubject, hoping I fhall be excufed for dwelling minutely on the caufes of difeafe in each military poft; as it is my warmeft wifh to be able, by a ftatement of facts, to convince both his Majefty's minifters, and the Legiflature of Jamaica, that the prefent fyftem of defence is neither adequate to the fecurity of the ifland, the prefervation of the health

health of the troops, or such as should be derived from the large sums of money which are annually expended.

SECT. I.

SPANISH TOWN.

SPANISH TOWN, the capital of Jamaica, is situated about five miles inland to the north-west of Port Royal harbour.

Its site is a depressed plain, surrounded by various mountains, which approach within a few miles of the town, except to the south-east and south, where there are only some small hills to prevent its being open to a considerable extent.

The country between the town and the sea, consists of rich mould, rock, and sand; the latter commencing at no great distance from the town, and prevailing to a considerable extent along the sea-coast. This, by retaining and reflecting the action of the sun, contributes to render the sea-breeze that passes over it, less cool to the inhabitants of Spanish Town, than to those of
many

many other situations, and has prevented a great proportion of this part of the country from being cultivated ; it is consequently over-run with brush-wood, which frequently interrupts the regular course of the sea-breeze, and often prevents the inhabitants of Spanish Town, from receiving it with the force and purity, with which it blows at Port Henderson *.

The portion which has been cultivated is laid out into pens or farms ; but from the deficiency of seasons which prevail between the sea and Spanish Town, the country will probably never be sufficiently cleared, so as to render the town more cool or healthy.

The land which immediately surrounds the town, though without lagoons or swamps, is not in general cleared ; and there are large tracts remaining covered with brush-wood, which, with the flatness of the situation, and the soil retaining moisture for a very considerable time after the heavy rains, marsh

* A small village on Port Royal harbour, so named ; which from its contiguity to Spanish Town is used by the inhabitants for the purpose of shipping their goods.

exhalations arise, which at particular periods of the year produce general sickness among the inhabitants.

The town is placed on an irregular spot of ground, consisting of sand, brick-mould, and clay, and gradually declines from north to south. The Rio Cobre passes on its eastern boundary, and supplies the town with excellent water. As this is a running stream, it ought not to be suspected of producing disease; yet the inhabitants imagine those houses to be most healthy which are situated at the greatest distance from its banks. This stream certainly does not run with the rapidity, in passing, which it acquires previous to its reaching Spanish Town; but, in my opinion, the water is sufficiently agitated to prevent unhealthy exhalations, except after the heavy rains, during the seasons; when, by the quantity of filth and dead vegetable matter washed down from the mountains, and afterwards exposed on the banks of the river to the action of the sun, there are sufficient exhalations to occasion sickness not only to those who reside near it, but to the whole town.

From this situation of the river with respect to the mountains, the inhabitants sometimes experience a few days sickness, in the form of intermitting fevers, and bowel complaints, at a period when it is not usual for such complaints to prevail; for the mountains are exposed to heavy showers throughout the year, which sometimes run off in torrents by the Rio Cobre towards the sea, and occasion considerable swell in that river. This, upon receding, leaves its banks covered with mud and other filth, whence, from the action of the sun, marsh exhalations arise.

The town itself is not built upon a plan that can render it equally healthy to all the inhabitants: many of the houses are so constructed as to make them as cool and healthy as the situation will admit; but the greater part are on many accounts very exceptionable, from the larger proportion, inhabited by the lower order of white inhabitants and people of colour, having no upper story; while the apartments are small, low, and in a great measure shut out from both sea and land breezes.

The

The streets, which ought to serve as so many channels to conduct and add force to the sea-breeze, run in parallel lines (some few cross streets excepted) from north to south, by which one side of the street receives the sea-breeze, and at the same time screens it from the other; and this, with the narrowness of the streets, and the interruptions of wide piazzas, excludes such houses from any other but a partial circulation of air.

The town, though kept cleaner than Kingston, is not under such regulations as ought to be observed in a large community, and in so warm a climate; it being surrounded and much occupied by small negro huts, which harbour filth and prevent a free circulation of air; while many of the streets consist of stabling, where the sweepings are frequently left to be saturated by the rains, and afterwards give rise to unhealthy exhalations.

The burial ground, which in all towns, but more particularly in this climate, should be situated out of the circle of the town, is here placed nearly at its windward extre-

mity, and, it is too well known, is already occupied with a greater number of the dead than it ought to accommodate. During the hotter months, the ground of this, like that of other situations, cracks and forms chasms, through which the heavy rains may easily penetrate, and afterwards furnish exhalations, which, by being conveyed by the sea-breeze, no doubt contribute a large share to the production of the prevailing endemic.

The intense heat of the town, and the intemperance of many of the inhabitants, may also be considered as powerfully predisposing causes of disease.

The inhabitants of the two towns are much divided, whether the heat be greater in Spanish Town than Kingston: observations by the thermometer inform us, that in the middle of the day, Spanish Town is cooler than the lower, and warmer than the Savanna, or upper part of Kingston, owing to the latter being exposed to a more fair, constant, and uninterrupted sea-breeze; while the breeze has to pass over a tract of hot land, and frequently fails to extend so far

far as Spanish Town. There is, however, an evident difference in the temperature of the nights ; for while the inhabitants of Kingston are frequently oppressed with a close, sultry air, or a deficiency in its circulation, those in Spanish Town are refreshed with cool land-breezes from the mountains, which are in general very regular.

The thermometer has sometimes ranged as high as 92° in the middle of the day in Spanish Town ; and even in the cooler months seldom falls lower than 83° at that period of the day ; but in the nights, or very early in the morning, it has sunk down to 69° : the medium of the heat is therefore about 78° in the coolest, and 85° in the hottest months.

In such a temperature, the inhabitants must of course experience a considerable share of relaxation, which gives rise to frequent indisposition, though it may not in itself be productive of serious disease ; we consequently observe dyspepsia a very frequent complaint ; spasms, and pains in the stomach, from the same cause, though often attributed to a bilious affection ; nervous
F 3 headachs,

headachs, pallid complexion, and languid countenance ; and a general inactivity and disinclination to business. These effects are more particularly observable among that description of people, who have no retreats in the mountains, to which they can retire in the warmer months of the year, and are therefore obliged constantly to reside in the towns.

Previous to the seasons, the close oppressive heat which usually prevails, appears to act as a predisposing cause to the diseases which arise after their termination, and no doubt serve to make them more formidable and frequent.

Intemperance likewise, which is too often to be observed in the higher, but particularly prevails among the lower class of white people, and repletion, which is a species of it that attaches to the people of colour, act very powerfully in predisposing to acute diseases, and laying a foundation for those of the chronic kind. The effects of it are strongly marked in their countenances ; and there are many instances of the latter description of white people, in an attack of
fever,

A STATEMENT of the DEATHS which occurred in SPANISH TOWN during the Year 1793.

MONTHS.	White Inhabitants.		Christian Negroes and People of Colour.		DISEASES.																	
			Fevers.	Diarrhoea & Dyfentery	Consumptive.	Small Pox.	Measles.	Dropsy.	Gout.	Tetanus.	Dry Belly-ach.	Liver Complaint.	Spasms.	Convulsions.	Teething.	Apoplexy.	Childbed.	Miscariage.	Ulcerated Sore-Throat.	Worm Fever.	Casualties.	Old Age.
January	14	3	14	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
February	5	3	3	-	2	-	-	-	-	-	-	-	-	1	-	1	-	-	1	-	1	-
March	3	4	2	-	1	-	-	1	-	-	1	-	-	-	-	-	-	-	1	-	-	1
April	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
May	4	3	5	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-
June	13	3	12	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	-
July	7	2	8	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August	7	6	10	-	-	-	-	1	-	-	1	1	-	-	-	-	-	-	-	-	-	-
September	12	11	13	1	2	-	-	-	-	-	-	-	1	-	-	-	-	-	4	-	2	-
October	8	8	11	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-	1	1	-	-
November	10	6	10	-	3	-	-	-	1	-	1	-	-	1	-	-	-	-	-	-	-	-
December	7	7	11	-	1	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Total	94	58	104	1	14			5	1		4	1	2	3		1			10	1	4	1

In the above Statement, are five Officers who died by Fever, and forty-six Soldiers' Wives and Children, the greater Part of whom died of the same Disease. There were this Year eleven Cases of Yellow Fever, including Officers and Inhabitants. The Consumptions are principally among the Negroes and People of Colour.

N. B. The Inhabitants who died in the above, and three following Years of Yellow Fever, were all newly arrived in the Island.

A STATEMENT of the DEATHS which occurred in SPANISH TOWN during the Year 1794.

DISEASES.																							
MONTHS.	White Inhabitants.	Christian Negroes and People of Colour.	Fever.	Diarrhoea & Dysentery.	Consumptive.	Small Pox.	Measles.	Dropsy.	Gout.	Tetanus.	Dry Belly-ach.	Liver Complaints.	Spasms.	Convulsions.	Teething.	Apoplexy.	Child-bed.	Miscarriage.	Ulcerated Sore Throat.	Worm Fever.	Casualties.	Old Age.	
January	9	6	13	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
February	6	4	6	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
March	8	8	9	-	-	1	-	-	2	-	-	1	-	2	-	-	-	-	-	-	1	-	
April	6	5	6	1	1	3	-	-	-	-	-	1	-	2	-	-	-	-	1	-	-	-	
May	9	3	10	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
June	7	6	7	-	3	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
July	9	3	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	
August	11	2	12	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
September	4	2	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
October	6	8	10	-	1	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	2	1	
November	5	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	
December	10	1	9	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	2	
Total	90	50	100	1	7	6	-	3	2	-	-	1	2	-	-	1	-	-	-	-	-	-	

This Year three Officers and six of the Inhabitants (lately arrived) died by the Yellow Fever, and among the Deaths are thirty-two Soldiers' Wives and Children, principally by Fever.

A STATEMENT of the DEATHS which occurred in SPANISH TOWN during the Year 1795.

MONTHS.		DISEASES.																					
		White Inhabitants.	Christian Negroes and People of Colour.	Fevers.	Diarrhea & Dysentery.	Consumptive.	Small Pox.	Measles.	Dropsy.	Gout.	Tetanus.	Dry Belly-ach.	Liver Complaints.	Spasms.	Convulsions.	Teething.	Apoplexy.	Child-bed.	Miscarriage.	Ulcerated Sore Throat.	Worm Fever.	Casualties.	Old Age.
January	9	7	10	-	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
February	8	3	5	-	2	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
March	5	2	3	1	-	-	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	1	1
April	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	4	7	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
June	14	4	15	-	2	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	1
July	9	5	8	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
August	3	2	3	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	1
September	9	2	6	1	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-
October	9	5	8	1	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	1
November	6	5	7	2	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-	-	-	1
December	8	7	10	1	1	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-
Total	84	51	79	6	12	-	3	6	1	2	1	-	2	3	4	1	1	2	1	-	4	7	

Three Officers and ten Inhabitants died of the Yellow Fever, and nineteen Soldiery

Three Officers and ten Inhabitants died of the Yellow Fever, and nineteen Soldiers' Wives and Children by Fevers and other Diseases. Two Cases of Tetanus, among the People of Colour and Negroes.

A STATEMENT of the DEATHS which occurred in SPANISH TOWN during the Year 1796.

DEATHS which occurred in SPANISH TOWN during the Year 1796.																								
MONTHS.	White Inhabitants,	Christian Negroes and People of Colour.	DISEASES.																					
			Fevers.	Diarrhea & Dyfentery.	Consumptive.	Small Pox.	Measles.	Dropsy.	Gout.	Tetanus.	Dry Belly-ach.	Liver Complaints.	Spasms.	Convulsions.	Teething.	Apoplexy.	Child-bed.	Miscarriage.	Ulcerated Sore Throat.	Worm Fever.	Casualties.	Old Age.	Croup.	
January	6	3	7	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February	11	6	12	-	1	-	-	-	-	-	-	-	1	1	-	-	1	-	-	-	-	-	-	-
March	3	4	5	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-
April	4	1	1	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	2	3	3	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-
June	1	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
July	7	6	9	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August	7	3	7	1	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-
September	10	3	9	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October	8	4	10	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	1	-	-
November	20	7	23	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
December	19	11	23	2	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Total	98	54	111	7	8	3	1	1	1	-	-	1	3	1	1	-	3	-	1	2	3	4	-	1

Three Officers by Yellow Fever. There were in all twenty-nine who died of this Disease: but seven of them were of the Irish Brigade. There were thirty Soldiers who died of this Disease: but seven of them were of the Irish Brigade.

Three Officers by Yellow Fever. There were in all twenty-nine who died of this Disease; but among them are to be included with the Inhabitants many of the Women of the Irish Brigade. There were thirty Soldiers' Wives and Children who died this Year. There were in the course of this and the preceding Years five hundred and seventy-nine Christian Burials in Spanish Town: among which were sixteen Officers of the Army, one hundred and twenty-seven Soldiers' Wives and Children, and sixty-two Deaths by Yellow Fever.

fever, being lost for want of stamina to go through the disease, even in the mildest form.

Spanish Town, however, does not appear to be so unhealthy to the inhabitants as Kingston, except after the autumnal rains, when remittent and intermittent fevers prevail, which in some years have proved very generally fatal.

The annexed Tables of the Burials in Spanish Town for four years, will serve to shew the proportion of diseases, as they proved fatal at the different periods of the year; though, after much diligent investigation, I have been disappointed in procuring the means of ascertaining with accuracy the proportion of deaths to the number of inhabitants*.

In these Tables are not included the soldiers, the Jews, or the negroes who have not embraced the Christian religion, comprehending the greater part of the slaves; but consists of all the white inhabitants, both transient and resident, officers of the

* See the annexed Tables of Deaths.

army, foldiers' wives and children, free negroes, people of colour, and Christian flaves *.

Mr. Long, in his History of Jamaica, computes the number of inhabitants in Spanish Town, in the year 1774, exclusive of the Jews, the foldiers and their wives, and the flaves, at nearly 1700 souls. The town, fince that period, muft have increafed in population; fince from the beft imformation I could obtain, (though I do not offer it as an accurate calculation,) the prefent number of inhabitants muft be little lefs than 3000, including the Jews, which, from lifts given me in from the Jewish register, amount to 256 †.

If

* I am indebted to the Rector of the parifh, the Rev. Mr. Woodham, for this information, who very politely favored me with a fight of the Register, where not only the names, but alfo the difeafes of the perfons buried at Spanish Town, are inferted.

† During the Seflions, and the fitting of the Grand Court, there is a greater number of tranfient perfons in Spanish Town, than at any other period of the year; as for fome weeks, the former obliges the Members of the Council and Houfe of Affembly, and the latter, for a ftill longer period, the Judges, Gentlemen of the Law, the Jurors,

If this statement be just, the proportion of deaths to the number of inhabitants will be as follows : the most healthy year out of the four, one in twenty ; the most sickly, one in eighteen.

The greatest number of deaths among the Jews, in the most sickly of these years, was only twelve, which make the proportion of one in twenty-one.

Upon considering the whole of these returns and statements, the following conclusion may be drawn :

First, That Spanish Town, at all periods of the year, proves unhealthy to newly-arrived Europeans, and at particular periods, to the resident inhabitants.

Secondly, That the people of colour and free negroes enjoy a much larger propor-

Jurors, and such persons as have business at the court, to reside in town. Deaths that may happen to this description of people, during their residence in Spanish Town, being inserted in the register of burials, it is but just they should also be included in the general list of inhabitants ; and it may be on this account that my calculation so far exceeds that of Mr. Long.

tion of health, than the white and constant residents.

Thirdly, That the Jews are a medium in point of health between the other descriptions of people ; and this is to be attributed to their temperance, and to their having fewer Europeans among them.

Fourthly, That fever is the most prevailing and fatal disease among all descriptions of people ; consumptions more common to the people of colour and negroes ; dropfies more observable among the lower order of white inhabitants ; the dry belly-ach now an unusual disease ; dysentery not a very fatal one ; the ulcerated sore throat, the small-pox, and measles, accidental diseases, and not more fatal than in any other country ; and that the process of parturition is carried on here with much less risk than in Europe.

Fifthly, That it was more owing to a deficiency of subjects for the disease, than any difference in the climate, or in the circumstances, between Spanish Town and Kingston, that the continued fever was less fatal in

in the former; and that its appearance in Spanish Town, without extending generally to the inhabitants, is the most convincing proof of its being of that variety of the disease which is not infectious.

Sixthly and lastly, That fewer deaths, upon the whole, happen in the months of February, March, April, and May, than in any of the other months; and therefore that these months may be considered the most healthy throughout the year, both to the resident and transient inhabitants.

Spanish Town has ever proved an unhealthy quarter for British troops, though perhaps less so than Kingston.

There is a number of circumstances which expose the soldier to the bad effects of climate, that do not so materially affect the inhabitants: too many of their constitutions, from a constant habit of intemperance, occasional exposure to great fatigue, transitions of weather, or to various climates, frequently do not possess the stamina necessary for them to go through with safety the course of a violent disease; they consequently often sink under an attack, which, under different circumstances,

cumstances, would not have even placed them in danger. A great many also, from former indiscretions, or from causes depending on the mode in which they are sent out, arrive in the West Indies in a state of disease, or at a period not suitable to their constitutions.

The soldier in general is also improvident as to his present comfort or future safety, and requires the parental eye of his officer to keep him even within the bounds of common prudence. Subject never to be fixed to any particular spot, a consciousness of his being exposed to sudden hardships and inconveniences, and his present habits and society, all contribute to alienate those ideas of comfort, personal safety, or attachment, which he might have formerly imbibed in the private walks of life ; and this renders him sensual, indifferent, and thoughtless ; in fact, it forms him into a distinct character from the rest of society.

Under such circumstances, it must appear sufficiently evident, that troops, in an unhealthy situation, will experience more sickness in proportion than the inhabitants ;
and

and that temperance, prudence, and a good constitution, will save the one, and enable him to go through with safety a dangerous fit of illness, while the other, from a want of those virtues, and other advantages, will sink under a less formidable attack of disease.

The situation and construction of the barracks, and the proportion of men quartered in them, the interior regulation of a regiment, and the mode in which the men are exercised, make also a material difference in the health of the troops.

The spot on which the new barracks of Spanish Town are built, does not appear to be the best calculated for so desirable an object, the ground being low, clayey, and retaining moisture a long time after the heavy rains ; while from the vicinity of the barracks to the Savanna, which, during and for some time subsequent to the seasons, is little less than a swamp, they receive immediately all the exhalations which such a situation must naturally convey, and more particularly during the prevalence of southerly winds.

There

There are several elevated situations within half a mile of Spanish Town, where the barracks might have been placed to a much greater advantage; and which, by removing the troops further from the influence of marsh exhalations, and depriving them of the means of indulging with so much ease their inclinations to intemperance, would have been more conducive to their health; while, by marching the guard very early in the morning, or after sun-set in the evening, the duty required in Spanish Town might have been performed with equal convenience.

The construction of the barracks, it must be allowed, is the most suitable to the climate of any in Jamaica, as from their being placed upon arches, it admits underneath of a free circulation of air, and prevents them from being damp; while the apartments are admirably calculated to be kept clean, and at the same time are cool and airy. They consist of two stories above the arch, and can accommodate about six hundred men. It is greatly to be regretted, that so much expence has been incurred, where so
little

little defence is required ; and that so useful a piece of architecture had not been placed in a situation that would have contributed more to the security of the island, and to the health of the troops.

The 20th light dragoons, and the 62d regiment quartered in Spanish Town, suffered very seriously from fever, during the years 1793, 1794, and 1795, and furnished numerous cases of the continued fever, and the remittent with a bad type ; some few cases with symptoms of typhus, and others with a disease that appeared a combination of typhus and the tropical continued fever. The former regiment lost one third of its officers and men in the course of eighteen months, and for the first two years, had seldom less than eighty or ninety on the sick list. Since it has been moved into the new barracks, which we have just described, it has become more healthy. But when it is considered that this regiment has now been stationed more than five years in the country, and therefore ought to be seasoned to the climate, and that there perhaps is not a more disciplined corps in the West Indies,

or

or where so much attention is paid to the health of the men, its present returns by no means prove Spanish Town to be an healthy quarter, or will bear a comparison with those of other regiments, under less favorable circumstances, that are stationed in the mountains.

The two regiments of Irish Brigade, quartered in Spanish Town, experienced even more sickness than either of the former corps; but as they were under particular disadvantages with respect to discipline, part of the cause of their mortality, may with propriety be attributed to sources unconnected with the situation.

These regiments were relieved by the 63d regiment from Stoney Hill, which, from the great sickness it has experienced since it has been stationed in Spanish Town, furnishes a very striking proof of the difference of health between the two posts.

Upon giving a distinct account of the health of each regiment, I shall trace the sources of disease as arising from causes independent on situation, and shall now conclude my account of Spanish Town, by
introducing

A STATEMENT of the Number of PATIENTS admitted into the PUBLIC HOSPITAL in KINGSTON
for the Year 1793.

Total admitted, and died, with their Difeases, throughout the Year.																																									
		Althma.	Abfefs.	Contufion.	Conflump- tive.	Dyfenery.	Dropy.	Dislocation.	Epilepfy.	Fevers.	Fracture.	Gon Shot Wounds.	Infane.	Jaundice.	Obftruded Viteera.	Ophthalmia.	Palfy.	Rheumatifm.	Scurvy.	Small Pox.	Ulcera.	Venercal.	Wounds.	Total.																	
Admitted - -		1	3	10	17	39	7	1	1	128	2	1	9	1	1	2	2	13	10	1	147	10	4	410																	
Died - - -		1	1	1	6	25	3	-	1	68	-	-	1	-	-	-	-	1	-	-	14	-	-	122	{ 18 of them dying when admitted.																
Number admitted, and died, during each Month.																																									
		January.	February.	March.	April.	May.	June.	July.	Auguft.	September.	October.	November.	December.	Total.																											
Admitted - -		41	34	27	17	24	36	47	30	32	25	58	39	410																											
Died - - -		4	3	6	1	4	9	10	10	19	17	18	21	122																											
Their Trade or Occupation.															Native Country.																										
Scamen.	Mercantile Line.	Shopkeepers.	Planting Line.	Carpenters.	Surgeons.	Bakers.	Pedlar.	Silversmith.	Royal Artillery.	Tanner.	Farrier.	Gardener.	Fifherman.	Disbanded Soldiers.	Shoemakers.	Slater.	Town Guard.	Total.	England.	Scotland.	Ireland.	Wales.	Ile of Man.	America.	Germany.	Holland.	Denmark.	Sweden.	Norway.	France.	Spain.	Portugal.	Italy.	Greece.	Bermuda.	Barbadoes.	Tortola.	East Indies.	Jamaica.	Unknown.	Total.
358	6	3	14	5	4	3	1	1	1	1	1	1	1	2	3	1	4	410	170	66	84	31	4	12	13	6	1	1	1	3	4	2	1	1	1	1	1	2	4	410	
Total admitted - - - 410 Ditto difcharged - - - 253 } 375 Ditto died - - - 122 }																			Proportion of Deaths 1 in 4 and $\frac{1}{2}$.																						
Remaining in Hofpital 35																																									

A STATEMENT of the Number of PATIENTS admitted into the PUBLIC HOSPITAL in KINGSTON
for the Year 1794.

Total admitted, and died, with their Diseases, throughout the Year.																																										
		Abcess.	Sprains.	Contum- p-tive.	Droopy.	Dysentery.	Fevers.	Fractures.	Gun Shot Wounds.	Hypocon- dria.	Infane.	Jaundice.	Ophthalmia.	Palfy.	Rheumatism	Rupture.	Scurvy.	Ulcers.	Veneral.	Wounds.	Total.																					
Admitted	-	3	8	12	17	33	292	3	3	1	8	1	2	2	9	1	7	118	14	1	533																					
Died	-	1	3	5	6	16	173	-	-	-	2	-	-	-	-	-	-	14	3	-	223																					
{ 36 were dead or dying when admitted																																										
Number admitted, and died, during each Month.																																										
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.																												
Admitted	-	46	27	37	64	67	68	83	45	17	19	26	34	533																												
Died	-	19	4	8	19	22	44	42	23	11	6	14	11	223																												
Their Trade or Occupation.															Native Country.																											
Samen.	Planting Line.	Mercantile Line.	Coopers.	Distiller.	Mason.	Taylor.	Blacksmiths.	Carpenters.	Peeler.	Watchmaker.	Baker.	Tobaccoist.	Shoemakers.	Shopkeeper.	Transient Surgeons.	Milkwright.	Silverfmills.	Town Guard.	Total.	England.	Scotland.	Ireland.	Wales.	Italy.	Spain.	America.	Sweden.	Germany.	Norway.	Portugal.	Prussia.	Denmark.	Holland.	Jamaica.	France.	Guernsey.	Isle of Man.	Hanover.	Greece.	Unknown.	Total.	
479	18	5	2	1	1	4	3	5	1	1	1	1	4	1	2	1	2	1		533	196	69	93	39	10	10	23	22	13	7	4	11	10	6	3	5	1	1	1	1	8	533
Total admitted - - - 533 Ditto discharged 283 } 506 Ditto died - - - 223																					Proportion of Deaths, 5 in 8.																					
Remaining in Hospital																					27																					

A STATEMENT of the Number of PATIENTS admitted into the PUBLIC HOSPITAL in KINGSTON
for the Year 1795.

Total admitted, and died, with their Diseases, throughout the Year.																		
	Abceſſes.	Bruiſes.	Contemp- tive.	Dropy.	Dyſentery.	Fevers.	Films.	Gun Shot Wound.	Inſane.	Palfy.	Rheumatism	Scurvy.	Veneral.	Ulcers.	White Swelling.	Green Wounds.	Total.	
Admitted - -	1	2	8	10	20	127	3	2	13	2	8	7	2	98	1	2	306	
Died - - -	-	-	3	5	11	64	-	1	1	1	1	-	1	9	1	-	98	{ 18 of whom were dying when admitted.

Number admitted, and died, during each Month.													
	January.	February.	March.	April.	May.	June.	July.	Auguſt.	September.	October.	November.	December.	Total.
Admitted - -	18	26	23	39	21	24	30	37	11	31	16	20	306
Died - - -	8	11	3	10	11	10	5	11	8	9	8	12	106

Their Trade or Occupation.														Native Country.																				
Planting Line.	Mercantile Line.	Carpenters.	Blackſmiths.	Tailors.	Peckars.	Mafons.	Town Guard.	Transient Surgeon.	Bather.	Cooper.	Bricklayer.	Shoemaker.	Seamen.	Total.	England.	Scotland.	Ireland.	Wales.	Iſle of Man.	Spain.	America.	Denmark.	Sweden.	Jamaica.	Germany.	France.	Holland.	Pruffia.	Italy.	Portugal.	Bermuda.	Gibraltar.	Unknown.	Total.
21	4	4	4	4	3	2	2	1	1	1	1	1	257	306	108	43	48	12	4	33	14	9	7	7	4	4	3	2	2	3	1	1	1	306

Eight of the Deaths are not accounted for in the firſt column.

Total admitted	- - - -	306
Ditto diſcharged	- - - -	172
Ditto died	- - - -	106
		278

Proportion of Deaths, 5 in 8.

Remaining in Hoſpital - 24

A STATEMENT of the Number of PATIENTS admitted into the PUBLIC HOSPITAL in KINGSTON
for the Year 1796.

Total admitted, and died, with their Diseases, throughout the Year.																		
	Abcess.	Consumptive.	Common Wound.	Dropsy.	Dysentery.	Fevers.	Fractures.	Gangrene.	Gun Shot Wounds.	Infane.	Jaundice.	Rheumatism.	Scurvy.	Sprain.	Small Pox.	Ulcers.	Veneral.	Total.
Admitted - -	3	9	4	5	15	127	2	2	1	10	2	8	9	1	2	64	11	275
Died - - -	1	5	1	4	8	68	-	2	1	1	2	2	3	-	1	1	3	103

27 were dying when admitted.

Number admitted, and died, during each Month.																																
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.																			
Admitted - -	22	10	16	24	30	38	49	21	13	17	13	22	275																			
Died - - -	9	3	6	6	19	14	17	13	2	7	4	3	103																			
Their Trade or Occupation.														Native Country.																		
Seamen.	Planting Line.	Mercantile Ditto.	Shopepers.	Carpenters.	Blacksmiths.	Tailors.	Dyer.	Total.	England.	Scotland.	Ireland.	Wales.	Isle of Man.	America.	Spain.	Italy.	Germany.	Denmark.	Sweden.	Janica.	Hanover.	Nevs.	Norway.	Portugal.	Prussia.	France.	Bermuda.	Malta.	Unknown.	Total.		
240	19	4	3	3	3	2	1	275	92	39	46	9	1	16	18	5	4	10	6	3	3	1	2	8	3	4	2	1	2	275		
Total admitted - - - - - 275																			Ditto discharged - - - - - 140										243		{ Proportion of Discharged, 4 in 8.	
Ditto died - - - - - 103																															{ Proportion of Deaths, 4 in 7.	
Remaining in Hospital - - - - - 32																																

introducing a Statement of the Diseases and Deaths of the 20th Light Dragoons and 62d Foot, as they occurred in 1793, as well as of the former regiment in 1796; the first being the least, and the latter the most healthy year to the troops, that came within my observation. The 62d being removed from Spanish Town in 1796, and the Irish Brigade bringing with them a disease in a great measure unconnected with the climate, I have thought it sufficient for my present object, to introduce the State of Health of the 20th Light Dragoons only, for that year*.

As a proof of the greatest mortality the troops experienced in Spanish Town, as depending on situation, I shall select the state of the 20th Light Dragoons. It appears that in the year 1793, including the original complement on the 1st of January, and those enlisted during the year, there were three hundred and fifty men in the regiment; out of these, sixty-seven died, which

* See the annexed Tables.

makes the proportion two in eleven ; while in 1796, which was the most healthy year, the proportion was nearly about one in thirteen.

The return of the 20th Light Dragoons for 1797, has been merely introduced in the form it is inserted in the Jamaica Gazette, as a further confirmation of the unhealthiness of this post.

From these returns, it must appear evident that troops stationed in Spanish Town, under every advantage of quarters, and good discipline, will never probably continue healthy throughout the year, but will always be subject to the effects of the autumnal seasons, and in a much greater degree than the inhabitants.

The 20th Light Dragoons afford a striking proof of the truth of this assertion ; since after five years residence in the country, the men ought to be considered seasoned troops, and they are certainly placed in the best barracks in the island ; they now enjoy every advantage to be derived from judicious discipline, or systematical arrangement, and the particular kind of exercise
attached

attached to their duty, should at this period of their residence rather contribute to preserve, than injure their health; we notwithstanding may observe, that it is only a few months in the year, when they are exempted from the fatal consequences of climate, and that the proportion of deaths in the most healthy, considerably exceeds that of the most sickly years of the inhabitants. This circumstance places in the most forcible point of view the assertion, that Spanish Town will ever prove an unhealthy quarter for British troops.

The total number of deaths in Spanish Town during the years 1793, 1794, 1795, and 1796, exclusive of slaves, is as follows :

Inhabitants, officers, &c. as appears by	
the Parish Register - - - - -	559
Jews - - - - -	36
British soldiers out of four regiments	473
Total -	<u>1068</u>

Two regiments were only quartered seven months in the town, a third three of the above years, and the fourth, the whole period.

SECT. II.

KINGSTON.

As it is my intention to consider the different posts successively, in the order they stand with respect to health, commencing with the most sickly, this post might on that principle perhaps be entitled to precedence ; but as there is no material difference between the two, and as Spanish Town has always been the residence of the commander in chief, I have on that account given it a prior consideration, and shall now proceed to that of Kingston.

The town, which is of very considerable extent, is situated on the gradual descent or termination of rather an elevated spot of ground, forming the northern boundary of that extensive basin of water, usually distinguished by the name of Port Royal Harbour. This bay, on, or near the banks of which, are placed the different posts of Port Royal, the Apostles Battery, and Fort Augusta, is computed to be about ten miles in
3 length,

length, and its widest part to be three or four.

There is only a very narrow, flat, and sandy isthmus, terminating in the town of Port Royal, which prevents Kingston from being open to the sea, on the south-east ; while it is closely invested by the bay on the south : its eastern aspect, is a small, low tract of land, situated between the Port Royal mountains and the sea, on which is placed Rock Fort, in whose vicinity there are swamps that probably contribute to render Kingston unhealthy, from their laying nearly in the track of the sea-breeze.

It is a general opinion, founded in a great measure on experience, that the exhalations of marshy land extend to a very small distance from their source ; and that they are easily diverted from their ordinary track, by irregularities or eminences in the ground, over which they have to pass, before they can reach any particular spot. The theory of this cause of disease is however involved in too much ambiguity, to authorise us to determine, that such circumstances should always take place ; or that the winds should

not at particular periods have a degree of force and regularity, that will convey these exhalations to a much greater distance than at others ; or in some situations, the form of the land be more favourable to their progress : in such doubtful matters our opinions must be guided by experience, and where we cannot explain the causes of such occurrences on principles of theory, we must rest satisfied with ascertaining the facts.

I am informed by an eminent and long experienced physician in Kingston, that there is a lagoon, at the distance of nine miles to the eastward of the town, whence, in consequence of the occasional inundation of the sea, and its leaving behind a quantity of ooze and dead vegetable matter to be acted upon by the sun, the most unhealthy exhalations arise ; which at particular periods, convey an offensive smell to the inhabitants of Kingston, and render that town universally sickly.

The Liguanea mountains form the northern boundary of Kingston, which at the distance of about six miles, run in a parallel

rallel line, and in a very bold and lofty direction. The space between these hills and the town, is principally laid out into pens, to which many of the inhabitants of Kingston retire; and as it is not swampy, and the ground slopes towards the sea, these situations in general prove healthy.

To the westward between Kingston and Spanish Town, the land which binds the bay is very flat, and for some miles is interspersed with lagoons, that in many places are inundated by the sea, which upon receding, leaves sufficient materials to produce unhealthy exhalations. Greenwich, situated upon a part of this low land, about a mile from Kingston, has ever been remarkable for its bad air, and for the mortality it has always occasioned, particularly among Europeans: fevers of the continued and remittent kind, mortal dysentery, a tardiness of recovery from acute diseases, and a great disposition to relapses, are all to be derived from a residence at Greenwich; and it appears that in a former war, it proved fatal to some hundreds of French prisoners who were confined at this place.

To the northward of Greenwich, there is an extensive tract of Salina *, which, after a considerable influx of the sea from the harbour, is frequently overflowed by salt water ; at particular periods, it is also liable to be inundated by the Ferry river, which has a previous communication with a tract of lagoons ; and the water derived from these sources frequently remains stationary on the Salina, and gives rise to morbid exhalations.

These exhalations prove very offensive, upon passing the lagoons on the road from Spanish Town to Kingston ; always producing a damp, chilly air, conveying an unpleasant sensation to the feeling ; and after acts of intemperance, if approached previous to the rising, or subsequent to the setting sun, I have no doubt they frequently occasion fevers.

The land to the westward of Kingston not occupied by these lagoons, is very flat,

* A flat, sandy tract of land, commencing from the sea, and often extending to a considerable distance in the country ; producing various shrubs and plants, which will only vegetate in the most barren soils.

and after the seasons, swampy; so that when westerly winds prevail, the exhalations from all these sources are carried directly into the town, and contribute a very considerable share to render it unhealthy.

Having ascertained that there are sufficient sources for sickness in the land which may be considered the boundaries of the town, let us next examine what share the town itself (independent of those causes) may have in the production of disease.

Kingston is situated upon a soil, which in some parts is gravelly, in others a rich mould intermixed with gravel, and on the western extremity bordering on the Salina, it is principally sea-sand and ooze. The situation must however be altogether dry, since it slopes from the mountains in such a manner, that the heavy rains are always directly carried off into the sea, and therefore the water never lodges long in the town.

Owing to its distance from the Hope river, the inhabitants of Kingston are not supplied with such fine water as those of Spanish Town; many of them being obliged
to

to procure it from wells in the town, which from their vicinity to the sea, furnish water of a brackish quality, that is very apt to disagree with the bowels.

The town is usually divided between the lower, and upper part, or Savanna: the former is situated close to the sea, and is the place where all business is transacted, and where the lower order of tradesmen chiefly reside. The situation being low, many of the streets very narrow, and not sufficiently exposed to the sea-breeze, and the houses much crowded together, render this part of the town intolerably hot both night and day, which must materially injure the health of those who constantly reside in it, and even affects the merchants and others, who are obliged to be there the greater part of the day.

The Savanna, where the higher order of inhabitants reside, and to which the merchants retire as soon as the business of the day will admit, is upon a more elevated situation; and as the streets are wide and kept cleaner, and the houses upon a larger scale and less crowded, these advantages
render

render the air of the Savanna considerably cooler and more healthy, than the lower part of the town.

There are still some circumstances to be noticed which seem to form a very essential part of the causes of illness, in the town of Kingston.

Cleanliness has ever been very justly considered a virtue in individuals; in large communities, a neglect of it becomes criminal; since its exercise is not only productive of comfort, but often extends to the preservation of the health and lives of the members of such communities. Sorry I am to find myself compelled to remark, that so necessary a precaution against sickness, is most unpardonably neglected in the town of Kingston; that no means whatever are taken by the police, to correct irregularities, check the frequency of intemperance, or guard against the introduction of that disease to which the town is so particularly exposed; and that nothing but the natural disposition which prevails in warm climates, to impede the progress of contagion, and the constant ventilation the town experiences

experiences from the force of the sea-breezes, have saved the inhabitants of Kingston from the fatal consequences of the most pestilential disease.

To be more explicit, it is impossible to approach Kingston, through any of its avenues, without encountering the most offensive smells, from the effluvia of the carcases of animals, that have been left to die in the ditches, often in the principal roads, and afterwards to be devoured by birds of prey. Another custom very inconsistent with cleanliness, is the repairing or rather filling up the streets with the trash, and I may add, with the dung of stables, which has been previously allowed to remain in heaps, collected by the sweepings of the negroes, and forming regular dunghills, which also serve as receptacles for every other kind of filth; the effects of this custom are very sensibly felt in the smaller streets, where the air is interrupted in its circulation and becomes impregnated with such effluvia.

In many of the houses in the lower part of the town, tubs are substituted for vaults;
and

and it is a regulation that they should be emptied on the beach, where they often leave an offensive matter to be acted upon by the sun, and afterwards carried into the town by the sea-breeze. It however more frequently happens, that the negroes from having neglected this part of their duty in the day, to save trouble, avail themselves of the darkness of the night to discharge the contents into the streets.

The situation of the burial ground in the centre of the town admits also of the same objections as that of Spanish Town; and after the heavy rains probably contributes a large proportion to the production of disease.

When these different materials for putrid exhalations come to be saturated by the heavy rains, and afterwards exposed to the action of a powerful sun, and these united to the other remote causes of disease which exist in the vicinity of Kingston, and to the predisposing one of intense heat, and frequent acts of intemperance (which are here experienced in a greater degree than even in Spanish Town) it is not difficult to
account

account for the prevalence of sickness in Kingston, or that the diseases at particular periods, should appear in a more fatal form than in Spanish Town. It is further necessary to observe, that during the seasons, the rains frequently bring down such torrents of water from the mountains, as not only to wash away the upper surface, but even to form large chasms in the streets ; and in this event, the trash and filth are carried under the wharfs, where, from having no outlet, they remain stationary, and give rise to the most unhealthy exhalations ; these are distributed among the shipping by the land-wind, while the sea-breeze conveys them directly into the town.

The easy means of indulging in intemperance which the town affords to the lower order of inhabitants, and seafaring and other transient people, is a circumstance that adds very considerably to the mortality which occurs in Kingston. It is therefore much to be regretted, that the higher ranks of life who derive from education the advantage of an enlightened understanding, to point out the danger and impropriety of such
irre-

irregularities; do not enforce the observance of temperance, not only by example, but also by adopting such regulations as must in their operation prove the best means of preservation. The number of small retailers of spirits, which are allowed but with little restriction in the town of Kingston, may be considered as so many certain causes of mortality; while they do not possess one advantage, or contribute in the least degree to the comfort or convenience of those by whom they are most frequented. But this subject will be more particularly considered when treating on the means of prevention.

Another circumstance that is productive of mortality, is the situation in which seamen are placed on their arrival in Jamaica. When they engage with the master of the vessel, it is either for the whole voyage, or out to Jamaica only. In the former case, they frequently disagree with the master, or from a dislike to the confinement of a ship, during her detention in port, they quit her; and are often paid off by the master, for the sake of exonerating himself from men who
shew

shew but little disposition to render themselves serviceable to the ship; and therefore it may appear his interest to discharge them. In the latter case, when they engage only to navigate the vessel to Jamaica, they are regularly paid off in a certain period after their arrival. These people are consequently thrown upon the town of Kingston, without any home to which they can resort, without any immediate means of employment, and without reflecting on the necessity of a prudential disposal of their pay, until they are enabled to put themselves in a train to procure other births: they therefore run into every kind of irregularity, in which they are encouraged by the numerous opportunities that offer, and the little check they receive from the police. Owing likewise to their not being attended to, on their first indisposition, too many of them are carried into the public hospitals, in a state that admits of but little relief from the exertions of medical skill; the returns of the public hospitals will produce sufficient testimonies of the truth of this observation.

In

In the year 1793, the island of Jamaica experienced its share of the sickness, and mortality, which prevailed throughout the West India colonies; and the town of Kingston (for obvious reasons) was more exposed to this calamity, than any other part of the island. The disease appeared in a form so different to what had marked a number of years, that the Faculty were equally at a loss to trace its source, as to define its character, or to decide upon principle, what ought to prove the most successful mode of treating it.

Where the minds of individuals are mutually involved in doubt, a difference of opinion will arise among men, who even agree on most other subjects; and perhaps in the history of medicine, there never was a disease which gave rise to such opposite opinions, as that which proved so fatal to the West Indies. By one party, it was considered to be the endemic remittent in a more aggravated form, and from the strength and vigor of the European constitution, giving rise to inflammatory symptoms; while the other classed it under the head of

a new disease, originating from contagion, but marked with symptoms, differing materially in their appearance, and termination, from those infectious diseases, which frequently occur in Europe.

It will be reserved for a subsequent chapter to endeavour to remove this difficulty, in discriminating the disease, and to give reasons why it ought not to be considered generally contagious, or inflammatory; but that it originated from climate; that it was the disease to which newly-arrived Europeans have ever been subject, at particular periods, from the time of their first introduction into the West Indies; and that in this form of the disease, it was in no instance contagious; but that particular circumstances in the shipping, gave rise to a variety of it, which produced a train of symptoms, partly partaking of the original, and partly of the typhus or ship fever; and that this form of the disease proved infectious to newly-arrived Europeans only.

The following statements, extracted from the Parish Register, will shew in a strong point

No. III.

A STATEMENT of the BURIALS in KINGSTON during the Year 1793.

MONTHS.	White Inhabit- ants.	Transient Inhabit- ants.	Free Negroes and People of Colour.	Total.
January - - -	10	10	10	30
February - - -	9	4	7	20
March - - -	10	7	14	31
April - - -	7	5	9	21
May - - -	9	10	9	28
June - - -	11	13	10	34
July - - -	9	15	17	41
August - - -	20	12	21	53
September - -	22	45	25	92
October - - -	23	36	20	79
November - - -	27	63	16	106
December - - -	26	65	17	108
Total -	183	285	175	643

A STATEMENT of the BURIALS in KINGSTON during the Year 1794.

MONTHS.	White Inhabit- ants.	Transient Inhabit- ants.	Free Negroes and People of Colour.	Total.
January - - -	23	56	21	100
February - - -	10	29	10	49
March - - -	19	47	13	79
April - - -	16	91	17	124
May - - -	17	71	8	96
June - - -	24	103	12	139
July - - -	30	130	17	177
August - - -	19	91	11	121
September - -	19	46	6	71
October - - -	29	23	13	65
November - - -	13	45	7	65
December - - -	12	53	25	90
Total -	231	785	160	1176

I am indebted to the kindness of the Rev. Dr. REES, Rector of Kingston, for the above Information; and though the Difeases are not mentioned, yet these Statements will sufficiently explain the Proportion of Deaths in each Description of Inhabitants, as they happened in each Month. The following Returns from the Public Hospital, are introduced annually into the Jamaica Gazette.

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A STATEMENT of the BURIALS in KINGSTON during the Year 1795.

MONTHS.	White Inhabit- ants.	Transient Inhabit- ants.	Free Negroes and People of Colour.	Total.
January - - -	13	53	15	83
February - - -	14	33	17	64
March - - -	11	27	11	49
April - - -	9	31	9	49
May - - -	17	66	8	91
June - - -	21	35	19	75
July - - -	12	22	7	41
August - - -	16	19	13	48
September - -	16	26	9	51
October - - -	24	35	15	74
November - - -	17	22	7	46
December - - -	16	27	7	50
Total -	186	386	137	721

A STATEMENT of the BURIALS in KINGSTON during the Year 1796.

MONTHS.	White Inhabit- ants.	Transient Inhabit- ants.	Free Negroes and People of Colour.	Total.
January - - -	13	18	8	39
February - - -	14	11	3	28
March - - -	9	12	9	30
April - - -	6	22	9	37
May - - -	32	56	15	103
June - - -	28	49	14	91
July - - -	16	52	14	82
August - - -	22	30	18	70
September - -	13	15	15	43
October - - -	20	10	21	51
November - - -	23	6	8	37
December - - -	12	8	10	30
Total -	208	289	144	641

point of view, that the greatest mortality during this sickly period, was among the transient inhabitants; that though the residents produced more deaths than in many of the preceding years, yet they will bear no comparison with those of the other description*.

From these statements also may be fairly concluded, that the disease was not generally infectious, since it appeared in a town, where every circumstance (except the climate) tended to the generation and diffusion of contagion; and consequently that had it been a disease of that nature, the inhabitants would have been equally exposed to its attacks with the newly-arrived Europeans.

The returns from the public hospital, have been introduced to shew the number of transient persons who died by fevers, and the proportion of seamen, who were included in that class; by which it must appear sufficiently evident, that this fatal disease prevailed principally among the ship-

* See the annexed Tables.

ping at Kingston, though no newly-arrived European was exempted from its influence.

The general statement of burials, include under the head of transient persons, officers of the army, and navy; foldiers' wives, and children; all descriptions of strangers; and the deaths from the public hospitals.

I met with the same difficulty in ascertaining the number of inhabitants in Kingston, as in Spanish Town, and though a calculation has been given in, yet it cannot be depended upon for its accuracy. Mr. Long has furnished us with the following statement of the Population of Kingston in 1774:

White inhabitants	- - - - -	5000
Free negroes and people of colour		1200
		6200

The slaves for obvious reasons are not included.

Since the above period, the town has been considerably extended, and consequently the number of inhabitants increased in proportion:

tion : if therefore the seamen in the harbour, and all transient persons are included, I think we may with some degree of probability, set down the whole at 8000, including the Jews, who are about double the number to those of Spanish Town. These deducted will make the statement 7500.

Should this calculation be accurate, the proportion of deaths to the whole of the inhabitants, will in the most sickly year out of the four, be two in thirteen, and in the least sickly, one in twelve.

In the public hospital, the proportion of deaths to the number of sick, is upon an average something less than one in four, and it appears that in the course of four years ninety-nine persons were brought into the hospital either dead, or in a dying state; while it is probable a great many of the other deaths that happened in the hospital, originated from the patients not receiving medical assistance earlier.

These circumstances are so strong as to require no further comments, and it is to be hoped that in so respectable a com-

munity as that of Kingston, some means will be adopted to remove an evil, in which the credit and humanity of its inhabitants are so much interested.

Since the number of transient people will not bear a comparison with that of the resident inhabitants, and the proportion of deaths in the former so much exceed those in the latter, it strongly evinces how unfavourable the town of Kingston has proved to the health of strangers, and renders it probable that to the residents, Kingston may be nearly as healthy as Spanish Town.

Having enlarged on the causes of disease and mortality in this town, I shall take the liberty of suggesting to the Legislature of Jamaica, a plan which may probably tend in a great measure to render it more healthy.

1. That a Committee of Health be instituted, consisting of a certain proportion of the principal magistrates, and medical practitioners in Kingston.

2. That the Committee be invested with the power of inquiring into the state of health of the town, and of adopting such means

means as may be considered most conducive to it. That the Police be under the command of the Committee, with respect to all matters that concern the execution of its plans, and that the Committee send into the Governor, a monthly report of occurrences and remarks, and the measures adopted for the prevention of sickness.

3. That an Inspector of Health, and an Assistant, (both professional men) be appointed for the particular purpose of visiting all vessels that come into the bay of Port Royal, previous to any person on board being allowed to leave the ship; and report to the Committee the state of health, in which they found those vessels. Should they discover any fever, or other circumstance on board, that may induce them to suspect the vessel to be unhealthy, she is to be put under quarantine, and the Committee will afterwards determine when it may be prudent for her to receive pratique.

The following circumstances I would also beg leave to submit to the opinion and consideration of such Committee,

1. That an house or hospital be built out of the circle of the town, or out of the course of the sea or land-breeze towards Kingston, in an elevated situation, near enough to the shipping to enable the sick to be easily removed to it, without being conveyed through the town. That this hospital receive no cases but fevers; and that all masters of vessels be compelled, under a severe penalty, to send immediately to the hospital, such seamen on board their ships, as may have the slightest symptoms of fever; or report to the Inspector of Health, or his assistant, such indisposition of the men, which officer should visit the vessel, and determine whether this measure be necessary. The Inspector should also inform the Committee whether the situation of the ship requires it to be removed to a birth out of the track of the breezes towards the town or the shipping.

2. That no seaman from the shipping in the harbour, be allowed to come on shore without a ticket of leave from one of the officers of the ship: and that the police be directed to convey to the guard-house,

house, all persons of that description appearing in the streets without such ticket.

3. That such seamen as are unemployed, be directed to give in their names and abode to the Police-office ; there to be registered, and to receive a passport, renewable every month, to entitle them to reside in the town ; and without which they should be liable to confinement ; and if it appears that they have not the means of subsisting themselves, they should be compelled to engage in such vessels whose masters may apply to the office for seamen, upon the terms usually granted to persons of their description.

4. That every inhabitant who does not report to the Inspector of Health, such seamen, or other transient persons of a similar description, that are attacked with fever in their houses, within twenty-four hours from their being first taken ill, suffer a penalty ; and that the Inspector (if necessary) direct such sick persons to be sent to the Fever Hospital.

5. That the issuing of licences to small retailers of spirits be suspended, until reduced

duced to such a number as may be consistent with the health of the seamen, and lower order of inhabitants; and that no retailer be permitted to sell a smaller quantity, than a pint of spirits; nor allow the purchaser to make use of that in their stores; a proper penalty, or the forfeiture of their licence, being attached to the neglect of this regulation. That the negro huts in the suburbs, be removed to a situation where they cannot interrupt the course, or affect the quality of the breezes, that blow into the town; and that the police be made responsible, that no filth of any kind be harboured within, or in the vicinity of such habitations.

: 6. That the police be responsible for the removal of dead carcases, or any such nuisances, as are too frequently exposed to the action of the sun, in the roads that lead into Kingston; and that the original owners of such animals, be subject to a very severe penalty, for not removing them before they were observed by the police.

7. That such of the waste land as may be covered with brush-wood within
four

four miles of the town of Kingston, be kept constantly cleared, and the police be made responsible for the observance of this regulation.

8. That the custom of repairing streets with stable trash be abolished ; and some means be substituted that will be more conducive to the health of the inhabitants.

9. That all obstacles in the wharf, to the free outlet of the water during the heavy rains, be completely removed ; and that no person be allowed to empty their vaults on that part of the beach, that lays in the track of the sea or land-breeze.

10. That any person who permits filth of any kind to remain in front of their houses, be subject to a penalty ; and that scavengers be employed at the expence of the inhabitants, to sweep and keep clean the streets.

11. That in future, a place out of the circle of the town, and the track of the breezes, be appropriated for the burial of the dead ; and consequently the present places of interment be no longer used for that purpose.

12. That

12. That the Rector of the parish, give into the committee, the periods, names, complexions, ages, sexes, and diseases of all persons buried in Kingston; that an estimate may be formed of the progress of health, or disease in the town, at the different periods of the year.

The effect of these regulations or any other which the committee may adopt, should be ascertained and compared with the situation of the town, previous to such regulations being put into execution: and upon the same principle, it will be necessary that the committee endeavour to procure an accurate statement of the population of the town, in order to judge of the difference of health and mortality at different periods. Though these regulations, by recommending the observance of cleanliness, and such other means, as may render the remote cause of disease less powerful, may I hope be calculated to promote the health of the resident inhabitants; yet it is evident, they are principally brought forward for the purpose of lessening mortality among strangers, and more particularly

larly among seamen, who are so much more exposed to tropical diseases in their worst form. It is reserved for a future chapter to explain, that this climate is not favourable to the production of contagion; and that the disease which of late has produced so much mortality in Jamaica, did not in general arise from that source; at the same time, it is not meant to be implied, that such diseases cannot exist in a tropical climate, or that they did not occasion a part of the mortality, which lately happened in Jamaica. It will I hope be clearly proved, that a great number both of soldiers and sailors were destroyed by a fever of the typhus kind, produced by causes existing in the shipping, or by circumstances unconnected with the climate: to guard therefore against the production or diffusion of such a disease, forms a very essential part of these regulations, and in my opinion, justifies the same measures to be adopted, as might even be thought necessary, should the diseases of tropical climates, always originate from contagion.

Having

Having explained the various sources of disease which exist in the town of Kingston, and the effect they produce on the health of the inhabitants, it cannot be supposed, that this post should prove an healthy quarter for British troops; who, it has already been observed, are so much more liable to the fatal effects of climate.

The barracks are placed on the town parade, at a small distance to the north-west of the lower part of Kingston, which they overlook, from their site being rather more elevated; they however labour under the disadvantage of the sea-breeze passing over the town, and part of the shipping, before it can reach them; it is consequently liable to be impregnated with any unwholesome effluvia, to which such situations may occasionally give rise. The barracks are bounded on the north by the suburbs of Kingston, principally consisting of small houses, and negro habitations, where much filth is harboured; and after the rains, unhealthy exhalations probably occur; while the church and burial-ground is at no great distance from them on the parade

to the south: their situation therefore cannot be considered eligible on the score of health; while their construction, though upon a more improved plan than the former barracks, will not bear a comparison with the various advantages to be derived from those of Spanish Town: they are capable of accommodating about three hundred men.

The 10th foot, after a long residence in the island, and having been quartered between two and three years at Stony Hill, was removed down to Kingston in 1794. In the preceding year it had lost seven men only, while during the first six months that the regiment was quartered in Kingston, it experienced a mortality of twenty-one, and was afterwards sickly in proportion: a striking proof of the difference of health in the two posts.

The 16th foot was quartered at Fort Augusta during part of the years 1794 and 1795, and afterwards was stationed in Kingston. During the year 1794, this regiment was very healthy, and for the first six months in 1795 at Fort Augusta,

Augusta, it lost only seven men; during the last six months in Kingston, it had a mortality of 24: early in 1796 the regiment was drafted into the 62d.

The 62d, 63d, and various detachments of other corps, were afterwards quartered at different periods in Kingston; where they afforded so many additional proofs of the unhealthiness of this post.

The 3d regiment of Irish Brigade, was divided between Kingston, Port Royal and Spanish Town; the largest proportion being stationed in Kingston. In the course of seven months the regiment lost two hundred and two men, and twenty-nine officers, and discharged seventy of the former: the greatest part of this mortality happened in Kingston.

It however must be acknowledged, that there were causes for this mortality, which derived their source from circumstances peculiar to the regiment, and which therefore ought not altogether to be attributed to the situation, or climate.

The 3d West India regiment, which was sent to Jamaica to receive its men from
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the island, in the course of one year, lost near sixteen officers, the principal part of whom were quartered in Kingston.

These circumstances must in themselves carry a strong conviction to the mind, of the unhealthiness of this port, so that it would be only imposing on the understanding to offer any more proofs, or to reason any longer on the subject; and it is to be hoped, that Government, and the Legislature of Jamaica, will seriously consider, how far it is practicable, consistent with the security of the town to trust the defence of Kingston to its own resources; and to station his Majesty's troops in situations, where they will be less exposed to sickness and mortality.

When treating on the health of the regiments, it will however appear, that even the town of Kingston may be rendered less injurious to the troops, by a judicious discipline, and a proper interior economy; the 13th regiment of infantry having afforded a memorable instance of what may be effected by a rigid attention to those important parts of military duty.

SECT. III.

UP PARK CAMP.

THE barracks at Up Park Camp claim our next consideration. They were formerly a fixed quarter, but of late have only been used for the occasional accommodation of troops.

They are situated on an open plain, near the Liguanea Mountains, which closely binds them on the north; while their site is sufficiently elevated to look down upon Kingston, which at the distance of two miles forms their southern boundary. To the eastward, from the land sloping towards the sea, they are well exposed, and usually experience a regular sea-breeze, and are sufficiently elevated to prevent its conveying impurities from the ground, over which it passes in its way to the camp. To the westward, there are no lagoons nor swamps near enough to affect the health of the troops, and at night there is seldom deficiency of the land-breeze.

Under

Under such circumstances, it is natural to conclude that this ought to be a healthy situation; but experience informs us, it has frequently proved otherwise; and that the troops have occasionally suffered considerable mortality from fevers, and sometimes from bowel complaints.

This may partly be attributed to its flat situation, which after the heavy rains give rise to exhalations; though from its elevated position above the sea and Kingston, it does not appear probable, that the ground can long remain under the influence of moisture; since the rains when they fall heavy must naturally run off towards these points. We shall perhaps find a more probable cause of sickness, in the construction of the barracks; which consist of low wooden buildings, not sufficiently raised from the ground to prevent their being damp, while their frame is ill calculated to counteract the influence of the sun in the day, or sufficiently to keep out the strong land-breeze, which prevails over the camp during the night.

The first detachment of the 20th light dragoons on their arrival in 1792, was sent to these barracks, and after a short residence, lost its commanding officer and a number of men in the remittent fever with symptoms of malignancy.

The royals and 20th foot at particular periods also experienced their share of ill health at Up Park, and suffered some mortality from fevers and bowel complaints.

The 63d, which brought from St. Vincent's a number of men with bad ulcers, was stationed at Stony Hill ; but from the want of accommodation for the whole of its sick, and from the situation of Up Park Camp being more suitable to the cure of ulcers, the barracks at this post were converted into an hospital, for the reception of surgical cases from that regiment.

It did not appear that the ulcers received any benefit from the situation : however but few of the men were attacked with fever ; and at this quarter, some amputations were very successfully performed by the surgeon of the 63d regiment.

If

If a barrack, upon a similar construction to that in Spanish Town, was placed at Up Park, there can hardly be a doubt, but that it would prove a healthy quarter for assimilated troops ; and from its vicinity to Kingston, would render it totally unnecessary to station the military in that town.

SECT. IV.

FORT AUGUSTA.

FORT AUGUSTA, from its being considered an important security to the town of Kingston by water, it must, agreeable to the present system of defence in the West Indies, ever be subject to accommodate British troops, and therefore it claims a particular description.

It is situated at the extremity of a sandy peninsula, which forms the north-western boundary of Port Royal harbour ; the sea surrounding the fort except to the west, where it is connected with the land, which runs between this inlet and the bay in a narrow form, until it is lost in the Port Henderson salina. This salina terminates

in a considerable swamp, at no great distance from the fort ; but as it communicates with the salt water, it is not productive of disease, except when there has been a greater inundation of the sea, which on receding, leaves a quantity of ooze exposed to the action of the sun ; or from a deficiency of the usual influx, when the water becomes stagnant, and intermixed with decayed vegetables, gives rise to exhalations productive of fever in a bad form, and to a frequency of bowel complaint ; a disease to which the soldiers are not at all times exposed at Fort Augusta.

This quarter has in general proved healthy to such British troops, whose constitutions have been assimilated to the climate ; though at particular periods, they have not been exempt from attacks of the remittent and intermittent fever. These diseases however, except when they attack newly-arrived Europeans, usually assume a favourable type, and easily give way to the common mode of treatment.

The heat at the fort does not much vary from that in Kingston or Spanish Town ;
though

though the fort is open to a more pure and regular sea-breeze, which meets with no other interruption than the sandy peninsula between Kingston and Port Royal; it therefore blows with considerable force and purity on Fort Augusta: the nights are not so cool as in Spanish Town, nor so warm as those of Kingston; but the air is usually damp, which subjects the men to bowel complaints, that sometimes put on the dysenteric form, and prove troublesome, though they do not often terminate fatally.

This post is situate upon a sandy and rocky base; and the barracks which are bricked and airy, are capable of accommodating about three hundred men.

The health of the troops, may in some measure be attributed, to the difficulty with which the men can be guilty of irregularities; as there is only one gate through which they can escape, and this is so completely checked by the sentry, and by the situation of the officers' barracks, which are distributed over the fort, so as to have an eye on the men in every part of it, that nothing

but the most notorious neglect, can admit of any extensive acts of intemperance.

The 16th regiment after experiencing great mortality at the different posts on the north side of the island, was brought round to Fort Augusta in 1794. It continued healthy during the time it was quartered at this post.

Fort Augusta was used afterwards as a convalescent hospital to the troops from St. Domingo. The sick of this description were sent down under the hopes that the voyage, and change of situation, might be the means of restoring many of them to health: but it was found that a voyage of a few days, and the difference between the air of this place, and that which they left in St. Domingo, was not so material, as to promise much benefit to the sick: the plan was therefore given up.

In the year 1796, two regiments of Irish Brigade, arrived under very unfavourable circumstances from Europe. They had been embarked long before they sailed, experienced a long passage, and owing to
their

their officers being unaccustomed to the management of troops at sea, circumstances necessary for the preservation of health were not attended to; the men therefore had acquired disease previous to their landing.

One of these regiments was stationed at Fort Augusta. A disease of an infectious nature, to be hereafter noticed, but blended with symptoms of the tropical continued fever; appeared among the corps, and proved so very fatal, as to render it necessary to lose no time in separating the healthy, from the sick men.

The only quarter vacant, was Spanish Town, which was not the most suitable to newly-arrived troops; and nothing but the exigency of the case could justify the measure. The disease was however checked by its progress, and changed in its form; and though it was not eradicated, yet the mortality was considerably lessened by this arrangement.

Had there been barracks in the mountains, for the reception of these men on their arrival, all this mischief might have been prevented; since by the constant ventilation

ilation, and condensed state of the air in the high situations, the disease would have soon disappeared, or at least proved much less fatal.

The 40th regiment arrived in Jamaica in the year 1796, bringing from St. Vincent's, a number of very bad ulcers, acquired in the Charib war, and was stationed at Fort Augusta. It did not appear that the ulcers received much benefit from this situation; therefore such of the worst cases, as could be embarked, were sent to Europe. The regiment however continued otherwise healthy during the five months they were at Fort Augusta, and on embarking for St. Domingo in 1797, had not occasion to leave a sick man behind.

Fort Augusta therefore, like all other situations on the sea-coast, is not favourable to the constitutions of Europeans, though it in general proves a healthy quarter for seasoned troops, and is on that account preferable to those which hitherto have been described.

SECT. V.

PORT ROYAL

Is a small town situated at the south-western extremity of a very narrow sandy peninsula, of about ten miles in length, which terminates in the main land beyond Kingston, and separates the bay from the open sea. The point of Port Royal, with the Saltpond hills, on the opposite shore, form the entrance of the harbour.

As the town is exposed to an uninterrupted sea-breeze, and, from the intervention of the bay, the land-wind before it reaches Port Royal is corrected of its unhealthy exhalations, by passing over a considerable tract of salt water, this quarter (if we except the Apostles' battery) may be considered as healthy a situation as can be expected on the sea-coast.

The plan, and want of cleanliness in the streets, the construction of the houses, and their situation on a bed of sand by which the heat of the sun is retained and reflected,
the

the custom of using tubs close to the apartments of the houses in the place of vaults, and the inattention of the inhabitants in not emptying them so often as they require : these combined with the facility with which acts of intemperance may be committed by the soldiers, altogether contribute to render Port Royal less healthy to British troops, than its situation promises ; though with these disadvantages, it is still preferable to Fort Augusta.

From the dry situation of this post, (for but little rain falls at Port Royal, except when it comes directly from the sea,) and from having no ground near it from which exhalations can arise, fevers of type but seldom occur in this place, or only in the mildest form ; and it is, on this account, often resorted to by convalescents, and others affected with obstinate intermittents, who frequently lose their fever soon after their arrival at Port Royal. Bowel complaints, though not so frequent as at Fort Augusta, are more observable here than at many of the other posts, and are attributed
to

to the water, which is often brought in a brackish state to Port Royal.

This place however does not appear to be favourable to the constitutions of newly-arrived Europeans, since during the sickness which raged with so much violence in Jamaica, the continued fever both among the shipping and new-comers in the town of Port Royal, produced as large a proportion of sickness and mortality as in Kingston; and the troops which came within the description of constitutions favourable to the production of this fever, experienced their share of the prevailing disease. The 130th foot was threatened with the destruction of the whole of the regiment, and the Irish Brigade afterwards experienced the same calamity. During this period of sickness, when speaking of Kingston, it was observed that evidently there were two different diseases which prevailed at the same time, and both attended with great mortality. The one was the endemical continued fever of the West Indies; the other, the same disease blended with symptoms of typhus, and which appeared to be the prevailing fever

at

at Port Royal, both among the shipping and troops. The first certainly had not the least degree of infection in its nature, and the last appeared only so to those on board the ships, since it did not extend its influence to such houses in Port Royal as received persons labouring under the disease. The cause therefore could not be solely attributed either to the climate, or any thing peculiar to Port Royal, but derived part of its origin from some morbid sources existing in the shipping, or in the particular circumstances of the troops, which will be hereafter noticed.

There can hardly be a doubt but if a proper system of discipline were to be adopted, and rigid precautions observed against acts of intemperance, that troops, except such as are recently arrived from Europe, would always find a healthy quarter in Port Royal. The barracks are well constructed, and are capable of accommodating about three hundred men.

SECT. VI.

THE TWELVE APOSTLES

Is a small fort, or battery, placed on the summit of an high rock, which in a wild and romantic manner hangs over the sea, and looks down upon Fort Charles, Port Royal, on the opposite shore; the latter with this battery, command the entrance to the bay. The fort, to the westward is flanked by commanding heights of solid rock, the surface of which, like the site of the fort, only affords growth to such tropical shrubs, as will not vegetate in more fertile situations: hence there are no swamps near enough for their effluvia to reach the fort; and the sea-breeze, from meeting no interruption, and from the elevated situation of this fort, is more pure and refreshing than in any other part of the bay.

The barracks, which are made to accommodate about one hundred men, do not admit of a free access of the land-wind,
which

which renders the nights frequently close ; but this does not appear to affect the health of the soldiers, since the troops that have been occasionally stationed in this fort, (for it is not a fixed quarter,) have experienced less sickness than at any of the posts already described. The salubrity of the situation, induced the commander in chief, occasionally to send convalescents to the Apostles ; and many derived much benefit from the experiment ; but owing to the men being detached from their regiment, and to some defect in the duty of the non-commissioned officers, irregularities were committed, which defeated the object of this arrangement.

It can scarcely be doubted that if some alterations were made in the barracks, and a strict discipline observed, the Apostles' battery might be converted into a situation, that would prove much more conducive to the health of the troops, or to the recovery of convalescents, than any of the other posts on the sea-coast.

The salubrity of the Saltpond Hills, on one of which this fort is placed, has in-

duced the proprietor of Port Henderson, (a large tract bordering on the western boundary of the bay so named,) to build lodging houses, for the accommodation of such convalescents, as may be recommended to try the sea-air for the re-establishment of their health, previous to their being removed into the cooler temperature of the mountains. This place being a very moderate distance from Spanish Town, Kingston, and the adjacent country, it affords the inhabitants of those places, when indisposed, an easy opportunity of improving their health by an excursion to Port Henderson ; which from its romantic situation, and extensive prospects, possesses the double advantage of contributing to the amusement, while it is restoring the health of the patient.

At Port Henderson, there is also a natural cold bath, of salt water, with convenient accommodation for patients whose state of health requires or will admit of its use. This situation therefore may be considered a very desirable place for such con-

valefcents as may require a gradation of climates for the restoration of their health. It indeed must be acknowledged, that the climate of Jamaica, however injurious it frequently proves to the European constitution, is rendered less objectionable, by the various means which the island naturally affords for the restoration of health. Where the patient requires, or is in a state to be removed, into a cooler atmosphere than Port Henderson, the mountains present such a variety of temperatures, that there are few patients, who will not find situations suitable to their state of health; and if more powerful means are indicated, these mountains possess various mineral springs, which in the most rapid manner have conveyed health to the patient. As a singular confirmation of the effect produced by one of these springs, and the air of the mountains, among many other instances, I must beg to mention the case of an officer, who was so enervated, as nearly to have lost the power of using his hands, and whose stomach was so irritable, as to reject every
article

article it received, unless it was followed by a draught of strong brandy and water. In this melancholy state, a change of climate was recommended, but as there offered no immediate opportunity of leaving Jamaica, he was advised in the mean time to try a chalybeate spring, situated in a very elevated part of the Liguanea mountains. In the course of three weeks, health was in appearance so completely restored, as to induce this gentleman to return to his duty, before his strength was permanently established; this occasioned a relapse, and obliged him a second time to have recourse to the mineral spring; the same effect was again produced; but owing to an over-anxiety to join his regiment, combined with a neglect of precautions the observance of which was absolutely necessary to prevent a relapse, he was advised to return to Europe. Had he continued longer in the mountains, and paid more attention to his health on his return to his regiment, there hardly can be a doubt, but a visit to Europe would have been rendered unnecessary.

cessary. To these resources for health, may be also mentioned, a warm mineral bath with suitable accommodations, situated at the distance of about two miles from the town of Bath, in the parish of St. Thomas in the East; and a warm sulphur bath, at Milk River in the parish of Clarendon; to which the inhabitants of Jamaica very frequently resort for the restoration of their health.

In these observations, I have taken no notice of Rock, or Castille Fort, since from the unhealthiness of those posts, they have not been used as military quarters, for a number of years; and from the mortality they formerly produced among the troops, it is most earnestly to be hoped that his Majesty's forces may never be stationed in them, at any future period.

S E C T. VII.

ON THE

MILITARY OUT-POSTS.

HAVING finished my remarks on the fixed military quarters which protect the plains and sea-coast, I shall conclude the subject with the addition of a few general observations on those, where troops occasionally have been stationed; and which are appropriated to the defence of the various sea-ports along the south and north coasts of the island. Among those on the south side, will be noticed Black River and Savanna la Mar; and on the north, Montego Bay, Falmouth, Lucea, St. Ann's, Port Antonio, and a few other places of less importance. They all possess various sources for sickness from their intense heat; from the greater influx of the sea during the prevalence and increased violence of particular winds, by which ooze and dead vegetable matter are occasionally washed up, and left on the beach to be acted upon by the sun; and

from their situation near the influx of rivers to the sea, which usually terminates in a broad base, subject to be occasionally inundated by falls of water from the mountains, which upon receding, leaves a large surface, whence unhealthy exhalations may arise. In the vicinity of many of these posts, there are also swamps, and the inducements to intemperance are easy and powerful; while the barracks are not all built upon a construction, which may be suitable to the climate, to the situation, or to the circumstances of the troops. The tropical continued fever was observed during the present war in every town, or harbour along the sea-coast; and Montego Bay produced as many instances of mortality from this disease in proportion, as Kingston, or Port Royal. These posts will be noticed in the order they have just been arranged, and therefore Black River becomes the first for consideration.

BLACK RIVER is a small sea-port town in the parish of St. Elizabeth, and like most other situations on the coast, is nearly approached

proached by mountains. Though there are no considerable swamps in its vicinity, yet the river from its situation, must often furnish unhealthy exhalations; while the heat of the town, the confined manner in which the houses are built, and the contiguity of the barracks by which it becomes difficult to prevent acts of intemperance among the soldiers, these contribute their share to render this an unhealthy situation for British troops. A detachment of the 13th Light Dragoons was quartered at Black River, during the years 1795, 1796, and 1797, and experienced considerable mortality from the continued and remittent fever: this post therefore seems particularly unfavorable to such constitutions as are not assimilated to the climate.

SAVANNA LA MAR, situated nearly at the south-western extremity of the island, is a place of some consequence in a commercial light, since all the produce from Westmoreland is shipped at this port; but in a military point of view, it may, by professional men, perhaps be considered,

not calculated to answer any other purpose than local defence. The town is placed on a very flat and low site upon a soil which is a mixture of black mould and clay; it therefore possesses the quality of retaining moisture. This plain, which is not exempt from swamps, extends to some distance before it terminates in mountains, and a great quantity of rain falls in this parish in the course of the year. The barracks, which will accommodate about one hundred men, are new and built upon arches, under which the air can circulate without any interruption; and the whole is finished in a manner more suitable to the climate, than most of the smaller buildings of this kind, in any other part of the island. But the means of preventing intemperance in the soldiers are but imperfect; while the flatness and more frequent moisture of the situation, combined with the intense heat which prevails upon the sea-coast, are all circumstances that must render this an improper quarter for troops. Fever more usually assumes the intermittent type among the resident inhabitants of Savanna la Mar; but

but the continued or remittent in its worst type has appeared among strangers, and dysentery is not an unfrequent disease at this place. Troops in small detachments have been occasionally stationed here, but not in such numbers, or for a period long enough to clearly ascertain to what extent health or disease may prevail. Detachments of the 13th Light Dragoons and 62d regiment were at different periods during the present war quartered at Savanna la Mar, and furnished some instances of mortality, though not to a considerable extent.

MONTIGO BAY is the third town in extent and importance in the island. It is situated at the foot of mountains, which nearly encircle its site, and almost renders it a focus for the sun's rays; the heat therefore is intense, and this is increased by the sand and rock which form the base of the town. The streets are commodious, uniform, and kept remarkably clean, and the houses are more regular, and are built more suitable to the climate, than in any
of

of the other towns of Jamaica. Those on the heights above the bay are cool and healthy; but the place of residence for the merchants and tradesmen near the water-side, from its intense heat, and from the other causes of disease which exist in most sea-port towns, is very productive of sickness to newly-arrived Europeans, and even affects the health of the residents.

The situation of the barracks though elevated above the sea, is very unfavorable to the health of the troops, from its consisting of an honeycomb rock, with its interstices filled up with black mould, which admits of the rain lodging a considerable time after it has fallen, and consequently gives rise to exhalations. The surface of this rock is very rugged and irregular, and it nearly excludes the power of art to render it otherwise; while from the want of water, the troops are obliged to procure that article from the bottom of the hill, which by its height, and from being difficult to ascend, is productive of very great inconvenience. As the officers are unprovided with barracks, they are obliged to
procure

procure lodgings in different parts of the town, at the distance of near a mile and a half from the soldiers; so that, except at the hours of parade or field-duty, the men are not under the immediate controul of their officers. The barracks are built to accommodate three hundred men.

The mortality of the 16th infantry, the 83d regiment, and of detachments of other corps, which, during the present war, at different periods have been stationed at Montego Bay, strongly confirms the unhealthiness of this post to British soldiers; while among strangers, and more particularly seafaring people, the number that have been sacrificed to the continued fever during the years 1794 and 1795, prove how unfavorable is the town of Montego Bay to the European constitution.

FALMOUTH in general proves healthy to the resident inhabitant, though it is not equally so to the soldier. The barracks, which can accommodate about fifty men, are placed upon a low, sandy point of land; but

but as they labor under the disadvantage of being badly constructed, and as the detachments of the 16th and 83d regiments, which were stationed at Falmouth, did not suffer so much mortality in proportion as at Montego Bay, this post is certainly entitled to be considered a healthier situation.

LUCEA has ever proved the most healthy post on this side of the island ; since it appears that, by the returns of the sick for eight years, the troops were nearly as healthy at Lucea, as they would have been in the mountains. The barracks, which will contain an hundred men, are well constructed, and are placed at the termination of an elevated point of land, which runs out into the sea, and forms the western entrance to the harbour. They are consequently exposed to an uninterrupted sea-breeze, while there are no swamps near enough to admit of morbid exhalations being conveyed to the barracks by the land-wind. Detachments from the 10th and 16th infantry, and from the 17th light dragoons, were at
different

different periods during this war stationed at Lucea, where they experienced but little sickness or mortality.

ST. ANN'S has always proved a sickly quarter for British troops. The barracks are badly built, on a situation where they cannot be ventilated by the sea-breeze, while they are flanked, at the distance of about two miles to windward, by a morass that contributes to render them very unhealthy. A detachment of the 16th infantry suffered considerably from sickness at this post.

PORT ANTONIO. Fort George, at which the troops are usually stationed at this post, is placed at the termination of a neck of land, that forms the western entrance to the bay. This, though more elevated than some parts of the town, from its consisting of a clayey soil, and from the frequency and force of the rains at this place, possesses many of the qualities of a swamp, and occasions fevers of the remitting and intermitting type often to occur
at

at the fort, and sometimes in a fatal form. The banks of the river likewise, which empties itself into the bay, from the heavy rains which fall in this parish, are liable to frequent inundations and their consequences; so that Port Antonio is altogether not entitled to be considered a healthy situation, though more so than Montego Bay or St. Ann's. The 10th and 83d regiments, in detachments, lost some men at this post, while there has been less mortality among the Royal Artillery.

Martha Brae, Oracabessa, and Port Maria, all sea-port towns on the North-side, have small barracks, where troops have been occasionally stationed, though not so frequently as at the other posts. Of these Port Maria is the most healthy, which is to be attributed to the judicious construction and situation of the barracks, and to the liberal manner in which the gentlemen of the parish of St. Mary have attended to the wants and comfort of the troops, and the various ways in which they have contributed to promote their health. It would
be

be doing the country gentlemen of Jamaica in general much injustice, were it not to be here mentioned, that on all occasions where the welfare of the troops has been concerned, they have come forward with the greatest readiness, and have spared no expence, to promote the comfort of the foldier, or lessen the dangers of climate; while their doors have been generously thrown open to the indiscriminate reception of the officers, whom they have received with all the warmth of true hospitality, combined with the taste of modern refinement.

I shall now proceed to consider the only two posts we have established in the mountains, Stoney Hill and the Maroon Town.

SECT. VIII.

STONEY HILL.

THIS post is situated about nine miles to the north of Kingston, on a considerable eminence in the Liguanea mountains.

From

From the foot of the hill to the barracks, it is about two miles, consisting of a rise just sufficiently gradual to admit of a carriage with some inconvenience to ascend.

The object of the post, is to defend the eastern communication between the north and south sides of the island, consisting of a narrow defile which runs directly under the post, and by which it is completely commanded.

The troops are usually divided between two barracks situated on distinct hills, at the distance of half a mile ; and each barrack is capable of accommodating about two hundred men. The new barracks have the advantage of being more open, and exposed to the sea-breeze ; but from consisting of a double house, with the doors of the soldiers apartments opening towards the hill, it requires a very rigid attention on the part of the non-commissioned officers, to prevent the men from escaping at night, and being guilty of irregularities.

In this particular, the old barracks are better constructed ; since the building consists of a square, with an area in the center, into which the barrack doors open ; and as there are no means of leaving the barracks but through one gate, which is always under the eye of the guard, the inconvenience attached to the former building, is here completely obviated.

The hospital is also well constructed ; and is spacious enough to accommodate the sick proportioned to the number of men, and health of the post ; a circumstance not sufficiently attended to in most of the other posts.

The climate of Stoney Hill, may be considered a medium with respect to heat, and health, between the posts on the sea-coast, and the Maroon Town. The thermometer in the middle of the day seldom rises so high as 85° , but in the night or early in the morning, it frequently falls down to 65° . The mornings are of course very cool, and the sun is frequently obscured until eight or nine o'clock in an impenetrable fog, arising

from the river that runs immediately under the hill : as this is the evaporation of a rapid stream, though it occasions a disagreeable, chilling sensation, it is not productive of disease.

About nine o'clock, the land-wind ceases, and leaves a very hot, oppressive air, until the setting in of the sea-breeze ; which owing to the elevated situation of this post, does not reach Stoney Hill, until ten, eleven, or twelve o'clock ; and sometimes fails altogether : in that case, there usually falls a heavy shower of rain about three or four in the afternoon. Like other hills, this post is very subject to these transient showers, but as the ground on which the barracks are placed, is sandy, and prominent, the rain while it serves to cool the air, never lodges, or produces disease, except after the period of the seasons.

Stoney Hill has ever proved a healthy quarter to British troops, notwithstanding particular circumstances occasionally may have given rise to sickness. We have Dr. Hunter's authority to prove such to have
been

been the case in the last war; I can now add my testimony of its having been equally so during the present.

The 10th regiment was stationed at Stoney Hill, for several years, and within my observation, a period of eighteen months elapsed, with the loss of nine men only; a greater degree of health it might not probably have enjoyed in Europe. I have introduced a state of its hospital which will elucidate the truth of this remark, and as it was during a part of a very sickly year to the army in Jamaica, it will shew the difference of health between this and the other quarter, where it was afterwards stationed.

A STATEMENT of the SICK of the 10th REGIMENT at Stoney Hill and Kingston during the Year 1793 and Part of 1794.

STATION and MONTHS.	1793.									
	Diseases remaining in Hospital.									
	Admitted.	Discharged.	Dead.	Fevers.	Fluxes.	Ulcers.	Venerals.	Coughs.	Cafualties.	Total.
At STONEY HILL.										
January, February, March, -	38	40	3	1	0	2	3	4	2	12
April, May, and June, -	50	38	1	6	6	4	2	2	3	23
July, August, September, -	51	59	2	4	1	4	2	0	2	13
October, November, Dec.	68	53	1	12	2	6	1	4	2	27
Total - -	207	190	7	23	9	16	8	10	9	75

1794.

At STONEY HILL.

January, February, March, -
 April, May, and June, }
 STONEY HILL and UP
 PARK.

11

1

0

1

6

2

1

1

24

9

9

2

0

1

2

4

6

27

34

20

3

0

2

8

2

5

7

51

43

40

6

0

0

3

5

26

3

87

109

13

1

0

0

1

11

18

111

105

53

7

0

0

4

5

37

21

198

214

Total - -

At KINGSTON.

January, February, March, -
 April, May, June, - - -

The 130th regiment, which it has already been observed was suffering great mortality from the continued fever at Port Royal, owed its existence to its removal to this post; and though it brought up the seeds of the same disease, yet it did not lose more than four men after its arrival, and considering it was newly-arrived, became remarkably healthy.

Four companies of the 67th regiment arrived in Jamaica in a very sickly state, in consequence of long confinement in the transport, the loss of their clothing, and living for some time on bad provisions. The vessel which was conveying this part of the regiment to St. Domingo, was captured, and carried into an enemy's port in that island; where, after being for some time detained with the troops on board, she was ordered to another port: on her passage, she was retaken and carried to Jamaica. Previous to her arrival, a fever of the typhus kind, with cases of scurvy, had proved fatal to a number of the soldiers, and reduced the greater part of the others to a considerable state of debility. The detachment

achment was immediately landed, and marched to Stoney Hill, where, with the loss of two men only, the troops in a very short period completely recovered their health and strength.

The 62d regiment in 1796 was removed from Kingston to Stoney Hill, where it was quartered about five months. During this period it experienced but little sickness, and a mortality of only five men, but acquired a number of bad ulcers, in addition to those it brought from the Maroon Town, which, it must be acknowledged, proved very difficult to be cured.

A detachment of the 63d regiment succeeded the 62d regiment at Stoney Hill, and was equally healthy.

It is not to be understood by my remarks on Stoney Hill, that fevers never occur at this post, or that they never terminate fatally: my own experience must oblige me to acknowledge that such circumstances at particular periods of the year have happened.

To those who are acquainted with the climate of the West Indies, it must appear

obvious, that after such torrents of rain as sometimes fall, and the heat by which they are succeeded, there are but few situations where the air is sufficiently condensed to prevent unhealthy exhalations, and of course the production of fever. In a climate like Stoney Hill, where there is not a difference of more than ten degrees of heat between it and the low lands, it is evident that after the heavy rains the troops will be subject to fevers; and in some constitutions with a bad type. My own observations, and those of others, go so far as to prove, that this disease is neither frequent nor fatal at Stoney Hill; that it always is more or less disposed to intermit, and give way to the common mode of treatment; and that excursions into the plains, and acts of intemperance, have more frequently been the cause of this disease, than any source that could be attributed to the situation of Stoney Hill.

Bowel complaints occasionally are to be observed at this post, though they seldom produce very serious consequences. Ulcer is the only disease of importance that occurs at Stoney Hill, and often renders it
necessary

necessary to move the men down to the sea-coast, where they are more readily cured.

From the whole of these positions, it appears evident that Stoney Hill is in a considerable degree healthier, and much more favourable to the constitutions of newly-arrived Europeans, than any of the posts on the sea-coast; and that by a rigid exertion, in preventing the men from wandering over the hill, and a strict attention of the non-commissioned officers, in immediately reporting to the surgeon those who have the most trifling sores, in order that they may be directly sent to the hospital, the only disease endemical to Stoney Hill, (bad ulcers) might be prevented from becoming formidable or even frequent.

SECT. IX.

THE MAROON TOWN.

WE owe to accident (the Maroon war) a discovery of one of the most healthy posts, probably, in the West Indies, and, in the
opinion

opinion of military men, a situation which, with a sufficient force, will enable us in time of peace to protect a large proportion of the western extremity of the island against internal enemies, without requiring a soldier in any of the towns on the sea-coast; which, we have already observed, is a constant source of sickness to British troops. It will be hereafter noticed, that little danger of insurrections is to be apprehended in the towns, where the white inhabitants bear a larger proportion than on the estates: this situation therefore, by admitting troops to be rapidly conveyed to most of the properties in St. James and Westmorland, will, as before observed, answer nearly all the purposes of internal defence in that part of the island.

The Trelawney Maroon Town is situated on a very lofty mountain in the interior of the country, between Savanna la Mar and Montego Bay; by which it is centrally placed between the north and south sides of the island.

The thermometer seldom rises higher than 70° in the middle of the day, and at night,

night, or early in the morning, frequently falls so low as 55° , and sometimes 50° ; this with the frequent showers, to which all mountainous situations are exposed, renders the temperature of the air so cool, as to enable the residents to take any degree of exercise in the middle of the day, without experiencing the least inconvenience from the heat; and in the evenings fires can seldom be dispensed with.

The following event will convey a very just idea of the salubrity of this situation.

The 83d regiment, with detachments of the 13th, 17th, and 18th light dragoons, arrived in Jamaica from Europe, in the month of July 1795, at a time when much sickness was prevailing. The former and part of the latter remained a few days in Port Royal harbour in the transports, under orders for St. Domingo. For that island they sailed early in August; but in consequence of the Maroon rebellion, a fast-sailing boat was dispatched from the east end of Jamaica to meet or overtake them, with an order to proceed immediately to

Montego

Montego Bay: this order was complied with; they were landed, and a great part of them immediately marched to the vicinity of the Maroon Town. This force afterwards was joined by the 20th light dragoons, which was followed by four companies of the 62d regiment, detachments from the 10th and 16th infantry, and a considerable reinforcement of the militia, forming ultimately an army of about three thousand men.

The troops, during the whole of seven months campaign, were remarkably healthy, though they were constantly harassed by the most fatiguing marches over stupendous mountains, and almost inaccessible places, exposed to perpetual rain, and frequently obliged to sleep in the open air in their wet clothes. The 20th light dragoons returned to Spanish Town in the early part of the campaign in a very healthy state; the other part of the army, with some little variation, remained on the scene of action until the conclusion of this disturbance, when the militia returned to their respective

tive homes, and all the regular troops were removed to the different quarters allotted them, except four companies of the 83d regiment, that were left at the Maroon Town.

This detachment have continued ever since to enjoy a better state of health than they would probably have experienced in Europe; while the other part of the regiment, and the newly-arrived detachments, that were moved to the lower quarters, experienced great mortality from the fever which so generally prevailed throughout the sea-port towns of the island.

It is a singular fact, that a period of two months elapsed at the Maroon Town, during which the hospital was closed, the detachment not furnishing a man, whose indisposition was such as to require confinement; and in the year 1796 there happened only eight deaths, four of which were by fever, three by ulcer, and one by dysentery; a trifling mortality among troops that had resided so short a time in the island.

The

The Maroon Town therefore seems to be productive of none of those diseases to which a foldier is fubject, except ulcers, which, though not fo frequent as at Stoney Hill, have fometimes at this poft proved very troublefome. From this it would appear that there are few habitable fituations in Jamaica high enough to prevent the occurrence of this difeafe.

Having concluded my defcription of the different military pofts in Jamaica, the facts laid before the reader will enable him to judge pretty accurately of the advantages (as far as health is concerned) to be derived from ftationing troops in the mountainous fituations, in preference to the plains and fea-coaft, and the little profpect of mortality being leffened, while the prefent fyftem of defence is continued in that ifland. As the following chapter will ftrongly corroborate the favorable opinion here entertained of the mountainous fituations of Jamaica, I fhall referve my general conclufions on that fubject until I can bring forward fuch a collection of facts,

as I trust will place the matter beyond a doubt; and which I hope may induce his Majesty's Ministers seriously to consider, how far it is practicable to accommodate the plan of defence in Jamaica, to the health and comfort of the troops.

CHAP. VII.

*State of health of the several Regiments
in Jamaica, between May 1794 and
May 1797.*

IN this chapter, it is my intention to consider the state of each regiment, and to trace the sources of sickness as they originated, from situation, the constitutions of the men, the discipline and interior economy of the regiment, and the various other circumstances attending the service in Jamaica.

As the subject will be treated with all the delicacy its nature admits, without omitting such observations as from their importance demand particular attention; and since the welfare of the service is the only motive for their introduction; I am convinced they cannot be considered of a nature to injure the feelings, or give offence to any of the parties concerned.

The

The military establishment in Jamaica on the 1st May 1794, which was the period when I was entrusted with the superintendence of the Military Hospitals, consisted of the following regiments: the 20th Light Dragoons, the 10th Infantry, the 16th infantry, and the 62d regiment; exclusive of the Royal Artillery, which from being under a distinct department, did not come within my inspection. These corps will be considered first, and the regiments sent to the island subsequent to that period, will be noticed in the order they stand with respect to the time of their arrival.

SECT. I.

TWENTIETH REGIMENT OF LIGHT DRAGOONS.

As this was the first corps of cavalry that had been stationed in the West Indies, and as the dragoon duty and exercise differ in many particulars from that of the infantry, it could not be expected that Government should be prepared to judge, what effect

these circumstances were likely to produce on the health of the men; or be able to ascertain what description of soldiers might be best calculated for such a service.

This regiment, destined for the exclusive and permanent service of Jamaica, was formed of drafts from the different corps of dragoons in England and Ireland; therefore, notwithstanding it could not be termed newly raised, yet it might still be considered in a state of infancy, and labouring under many of the disadvantages attendant on forming new corps; with the additional inconvenience of divesting the men of habits peculiar to the corps from which they were drafted, and moulding them into a system, by which the whole was to be regulated.

The order of Government, respecting the description of men to be furnished by each regiment, may have been punctually obeyed by the commanding officers: yet it is not to be supposed that they went a step beyond the strict meaning of that order, and allowed their best disciplined and most valuable men to be sent away, to the
preju-

prejudice of their own regiments. Hence the 20th Light Dragoons, in the first instance, was composed of men who, in general, were irregular in their habits, and deficient in most of those qualities which were likely to promote that good order and discipline, without which a regiment never can expect to be healthy in the West Indies. This circumstance therefore strongly elucidates the disadvantages arising from a regiment of drafts being sent on such a service.

The island of Jamaica, at whose sole expence this corps was to be supported, shewed a ready disposition to spare no means that could promote its interest, or forward it to a state of perfection; but in their over-anxiety to effect this object, they lost sight of guarding against the climate, with which the troops had to contend, before the regiment could be considered fit for service. Instead of preparing barracks, and an hospital, in a healthy situation for the corps, where the men might be disciplined without much risk to their health, they omitted those conveniences altogether;

ther; and, at a great expence, raised a riding-school only, in Spanish Town, which, with Kingston, are the most unhealthy quarters in the island: no other accommodation therefore offered but the theatre, a large wooden building, the frame of which was so thin as considerably to be influenced by the action of the sun during the day, and to be pervious to the land-breeze at night; while, from the whole of the regiment being placed in an apartment that allowed of no separation, the air of the barracks, on the failure of the breeze, became strongly impregnated with the effluvia arising from the lungs, and the bodies of the men.

The regiment experienced a similar inconvenience from the want of a proper hospital; the old work-house being employed for this purpose, which neither admitted of being kept clean, nor was it calculated to accommodate the whole of the sick; part of whom therefore unavoidably were left with the healthy men in the barracks.

All these concomitant circumstances, which rather may be attributed to the improvidence of the legislature of Jamaica, than to those who had the direction of the army, or of the sick, no doubt increased the proportion of sickness, and occasioned the prevailing disease to gain an infectious tendency, a circumstance which the climate is by no means calculated to induce.

The unavoidable necessity of quartering the married men in the different parts of the town, was another principal cause of disease. The site of the habitations in which they were placed, during and for some time after the rains, was little better than a swamp; and frequently produces disease even among the negroes, who are seasoned to the climate. These houses served to encourage intemperance among the single men; since they could there often commit irregularities of that nature, without being observed by their officers: besides, the unhealthiness of such situations was strongly exemplified, by the number of married men daily brought to the hospital,

spital, and the mortality among the women and children, which exceeded all comparative calculation.

The great number of retailers of poisonous spirits, and the unlimited manner in which they are allowed by the police to encourage soldiers to frequent their houses, is another cause which contributes to render the troops unhealthy in Spanish Town. In justice to the commanding officer, it must be said that no exertions [were wanting on his part, to prevent the men of the 20th Light Dragoons from availing themselves of opportunities so injurious to their health; every precaution was taken to keep them within the barracks at hours improper for their being absent; and the better to effect this admirable purpose of sobriety, the officers of the regiment were not only very vigilant in detecting, but active in punishing such men as they found committing acts of intemperance: yet, owing to the unfavorable construction of the barracks, the neglect of many of the non-commissioned officers, and the arts used by the men themselves to evade
vigi-

vigilance, in which they were too often assisted by the women, it became impossible effectually to put a stop to this irregularity.

The discipline, dress, parade, and common duties of the men, on their first arrival, certainly were not calculated to prevent disease in a tropical climate.

The officer who commanded the regiment when I had the honour of being its surgeon, was well known for his military accomplishments, and more especially for his qualifications as a dragoon officer ; which, aided by the evenness of his disposition, the regularity, system, and principle, that marked every part of his conduct, rendered him eminently calculated to form and discipline a new corps of cavalry. But it must be recollected, that the same means which may be proper and necessary to accomplish this object in Europe, cannot with equal propriety and advantage be adopted in a tropical climate ; for to bring a regiment to a state of perfection in the West Indies, requires a length of time, and an attention to various circumstances, which would be

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considered

considered trifling, or perhaps unpardonable, in Europe.

No commanding officer therefore could be prepared with a system suitable to the situation of his corps, when from the novelty of the service to dragoons, whatever he attempted could only be considered as an experiment, the utility of which was to be determined by experience. In justification of myself, I must also mention that this was my first introduction to the West Indies; and that, consequently, I was neither authorised, nor indeed could I be qualified by experience, to offer to the commanding officer, such advice in my professional capacity, as might perhaps have contributed more to the health of the regiment.

Among other points which now appear to me to have been improved, is the appropriation of the early part of the morning to the more violent portion of the men's duty: on this principle, exercising the men in the riding-school in the heat of the day was objectionable; for though the school was sheltered from the influence
of

of the sun, yet the men generally left it in a heated state; and their duty frequently required their attendance in the stable, where perspiration often would be checked by the draught of air to which they were exposed. The hour and dress of parade also, I think has been altered to advantage; since the men formerly, by being heated from the exercise of the morning duty in the stable, which was always performed in a warm, thick dress, were ill prepared to appear on the parade in a linen waistcoat and trowsers at eleven o'clock in the forenoon; when the sea-breezes blew with the greatest force, and to which the barracks where the parade was held were particularly exposed: the consequent marching off of the barrack guard at the same hour, also exposed the men to the meridian sun, during its being formed, relieved, and dismissed.

It likewise probably would have been more prudent, either to have avoided carrying the men into the field until they were more assimilated to the climate; or else always to have concluded the field day before

before the sun by its height had become too hot and oppressive. It is indeed to be regretted, since the regiment was not stationed in a part of the island more suitable to its health and state, that, during the first year, the duty of the men had not been confined to parade discipline; and the purchasing and training of the horses postponed, until the men had become capable of going through the fatigue attached to that part of the dragoon duty. There were also many other circumstances of less importance that might be mentioned as having contributed in some degree to render the regiment more sickly; but as these will be noticed in a subsequent chapter, it will be sufficient to observe for the present, to the great credit of the commanding officer, that he very readily adopted such regulations as were proposed for promoting the health of the men; and that he very considerably altered, and improved many of his former arrangements; under which improvements, since the regiment has been placed in the new barracks. I am of opinion there is not a better disciplined (and
if

if the unhealthiness of the quarter be considered) a more healthy regiment in the West Indies, than the 20th Light Dragoons.

This regiment arrived in different detachments during the year 1792, and altogether consisted of an establishment of three hundred men. Part of it was, for a short time after its arrival, stationed at Up Park Camp, where it lost the commanding officer, and a number of men. The whole of the corps has been quartered ever since in Spanish Town. During the first two years, the regiment experienced a loss of half its complement of men, and more than a third of its number of officers. The prevailing disease, was the endemic remittent; though there were many cases in the hospital of the continued fever, and some few that bore a near resemblance to typhus, which sometimes was combined with symptoms of the tropical continued fever. The following statement will shew the proportion of Sick and Deaths between May 1794 and May 1797.

STATE of HEALTH of the 20th Regiment of
LIGHT DRAGOONS between May 1794 and
May 1797.

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.	
1794.						
1st May	SPANISH TOWN	169	-	-	-	
1st June		219	32	6	-	
1st July		216	36	2	1	
1st August		209	35	7	1	
1st September		207	23	2	-	
1st October		205	36	2	-	
1st November		203	33	2	1	
1st December		202	28	1	-	
1795.						
1st January			199	8	2	1
1st February			199	17	1	-
1st March			196	16	2	1
1st April		236	24	-	1	
1st May		235	21	-	1	
1st June		233	24	2	-	
1st July		228	25	5	-	
1st August		226	31	2	-	
1st September		218	32	8	-	
1st October		214	28	4	-	
1st November		213	26	1	-	
1st December		212	30	1	-	
1796.						
1st January		208	34	3	2	
1st February		201	66	7	1	
1st March		220	61	2	-	
1st April		216	38	3	1	
1st May		234	62	-	-	
1st June		296	56	3	-	
1st July		307	49	-	-	
1st August		307	46	-	-	
1st September		309	44	-	-	
1st October		307	38	2	-	
1st November		308	63	4	-	
1st December		301	63	7	-	
Carried over			81	11		

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1797.	Brought over	—	—	81	11
1st January	} SPANISH TOWN }	304	64	5	—
1st February		299	69	5	—
1st March		298	45	3	—
1st April		306	46	2	—
1st May		304	35	2	—
Total -		98		11	

Annual Proportion of Mortality.

1st Year	-	-	-	3 in 28.
2d Year	-	-	-	3 in 21.
3d Year	-	-	-	3 in 29.

General Proportion of Mortality.

Total number of men in the regi- ment during the whole of the above period	}	-	-	394
Proportion of deaths to total number of men	}	-	-	1 in 4
Proportion of deaths and discharg- ed to total number of men	}	Something more than	}	1 in 4

N. B. In this and the following Tables on the Health of each Regiment, the number of men absolutely in the regiment, within a given time, has been ascertained, by adding the number enlisted to the original complement at the commencement of the period, and deducting those who have deserted, which determines the specific number in the regiment during that period.

The

The mortality in this regiment, it must be acknowledged, was very great, and strongly elucidates the unhealthiness of Spanish Town, as a military post; nevertheless, the effects of good barracks, a seasoned regiment, and an improved discipline, are evident from the above statement; wherein it appears, that in addition to the number of deaths which happened previous to its commencement, and which amounted at least to one hundred and fifty men in two years, there were nearly as many happened during the last six months of the year 1794, as in the whole of each of the succeeding years.

SECT. II.

TENTH REGIMENT OF INFANTRY.

THIS regiment, which had been quartered many years in the island, was moved, previous to my arrival, from Spanish Town to Stoney Hill, where it succeeded the 19th, and with that corps, it confirmed the healthiness of this post, by losing nine men only in eighteen months.

The regiment was afterwards removed; so that, at different periods, it was quartered at Stoney Hill, Up Park, and Kingston.

By this arrangement, the difference of health of the posts was rendered very conspicuous; since, during the first seven months, a detachment only of this corps quartered in Kingston lost twenty-nine men, while between Stoney Hill and Up Park there were seven deaths only.

The regiments in June 1795 were drafted into the 16th and 62d.

STATE

176 ON THE DISEASES OF

STATE of HEALTH of the 10th INFANTRY,
between the 1st May 1794 and the 1st May
1795.

PERIOD.	STATION.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1794.					
1st May	{ KINGSTON & STONEY HILL }	300			
1st June	{ KINGSTON, STONEY HILL, and UP PARK }	288	28	12	
1st July	{ KINGSTON. }	282	26	8	
1st August		277	19	3	2
1st September		270	27	7	—
1st October		268	24	3	—
1st November		266	21	3	—
1st December		265	28	2	—
1795.					
1st January	{ KINGSTON. }	262	44	5	—
1st February		259	35	3	—
1st March		260	31	1	—
1st April		260	27	—	1
1st May		289	42	1	1
Total				48	4

Annual Proportion of Mortality.

Total number within the above period 278
Proportion of deaths to total num- } 3 in 17
ber of men - - -

S E C T. III.

SIXTEENTH REGIMENT OF INFANTRY.

THIS regiment, with the 20th foot, arrived in Jamaica in September 1792, after a quick passage from Halifax in Nova Scotia. The rapid transition from one climate to another, no doubt predisposed these troops to the sickness they experienced; but the difference of quarters, and other circumstances between the two regiments, will shew the effect produced on the health of the men, as depending on those causes, and will account for the men of one regiment being less sickly than their officers, and in the other for the officers being more healthy than the men.

The 20th foot were stationed at Up Park and Fort Augusta during the first three months, and were afterwards moved to Port Royal and the Apostles' Battery. None of these situations are favorable to the constitutions of strangers; they are, however,

much better calculated to promote the health of troops, than the quarters in which the 16th regiment was placed; since the barracks of the first was more suitable to admit of the men being kept regular by being under the eye of the officers, and were certainly healthier than those of the latter. The officers were, however, not under the same advantages; since many of them were obliged to live in lodgings in the towns of Kingston and Port Royal, where the inducements to exposure in the sun, and to other imprudencies, it must be acknowledged, are much greater, than in the vicinity of Montego Bay, where the officers of the 16th regiment were quartered.

The 20th foot, though they had a number of sick, lost few men, compared with the mortality of the 16th; while there were many deaths among the officers of the first, and none among those of the latter. Some of the officers of the 20th died a short time before, and three within a few days after my arrival in December 1792. I had no opportunity of seeing the fever which proved so fatal among them, but from being

ing informed that its last stages were marked by a yellowness and black vomiting, I am led to suppose that the first appearance of the continued fever ought not to have been confined to the month of June 1793 ; but that it is a disease to which Europeans have ever been occasionally subject on their arrival in a tropical climate. The commanding officer of the 20th Light Dragoons and an officer's lady died in the same way at Up Park Camp, in the preceding summer of 1792.

The 16th were quartered at Montego Bay, where they were put into barracks, ill-constructed, badly situated, too small for the number of men, and at too great a distance from their officers. The consequence of this measure was, that they were guilty of every kind of irregularity ; while the labor which ought to be performed by black pioneers, owing to a deficiency of such assistance, was executed by the soldiers. From these circumstances, a most dreadful sickness prevailed throughout the whole regiment ; by which, in the course of the first six months, it lost fifty-eight men,

while the officers, from being stationed in healthy situations, on the heights above Montego Bay, experienced no illness.

The 20th foot, during the same period, experienced a mortality of thirteen men only, while they lost six or seven of their officers.

The 16th regiment, in the spring of 1794, was brought round to Fort Augusta, where it afforded a striking instance of the advantages to be derived from situation, good barracks, and from having the means of disciplining the men and checking irregularities.

During the eighteen months this regiment was quartered on the North-side at Montego Bay, Falmouth, St. Ann's, and Lucea, there were eighty-nine deaths; while, during the fifteen months it was stationed at Fort Augusta, it lost twelve men only; and the first four months elapsed without the loss of a man.

This corps in January 1796 was drafted into the 62d regiment.

STATE OF HEALTH of the 16th INFANTRY, between
the 1st May 1794 and the 1st December 1796.

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Number died du- ring the preceding Month.	Discharged during the preceding Month.
1794.					
1st May	FORT AUGUSTA	237			
1st June		181	25	—	56
1st July		181	25	—	—
1st August		181	25	2	—
1st September		179	17	2	—
1st October		179	16	—	—
1st November		178	12	1	—
1st December		178	8	—	—
1795.					
1st January	KINGSTON and FORT AUGUSTA	176	9	1	1
1st February		175	7	1	—
1st March		174	11	1	—
1st April		172	6	2	—
1st May		171	11	1	—
1st June	KINGSTON	170	22	1	—
1st July		161	25	9	—
1st August		159	31	2	—
1st September		128	17	3	28
1st October		123	19	5	—
1st November	KINGSTON and the MAROON SERVICE	121	28	2	—
1st December		118	23	3	—
Total -				36	85

Annual Proportion of Mortality.

1st Year - - - - 3 in 64.

2d Year - - - - 3 in 18.

General Proportion of Mortality.

Total Number of Men between May 1794 and Dec. 1795 236

Proportion of Deaths to Total Number of Men - 2 in 13

Proportion of Deaths and Discharged to Total Number
of Men - - - - - } 1 in 2

SECT. IV.

SIXTY-SECOND REGIMENT.

THE 62d regiment arrived in Jamaica during the year 1790, and was first divided between the quarters at Fort Augusta, Port Royal, and the Apostles' Battery; whence it was moved in the year 1791 to Spanish Town.

This regiment was a remarkable instance of the general change of health which had taken place in Jamaica during the years 1793, and 1794; previous to that time, though not without some mortality at the sickly periods of the year, yet it had not experienced so much sickness, as usually takes place in a regiment, which has been stationed but a short time in the West Indies.

This corps was placed in the old barracks in Spanish Town, which though they had not the same disadvantages as the theatre, where the 20th Light Dragoons at that time was quartered, yet were too deficient in
several

several important points, to entitle them to be considered eligible quarters.

The site nearly on which (with a difference of aspect) the new barracks are placed, was very objectionable, from its being too flat, and contiguous to the Savanna; by which during, and for some time after the seasons, they were constantly in the midst or neighbourhood of moisture, and therefore exposed to exhalations. The building from being in a great measure in a state of ruin, did not admit of being kept clean; and allowed of too easy means for the soldiers to introduce spirits in a clandestine manner into the apartments.

Every exertion was made to prevent intemperance among the men; and with a view of checking it, it was thought necessary at one time to prohibit them entirely from quitting the barrack-yard. The women were also carefully watched in the articles they brought into the barracks, and the non-commissioned officers were ordered to be vigilant in detecting the introduction of liquors or such men as were found in a state of inebriation. Notwithstanding such

precautions, the commanding officer was much surprised to find intemperance still very prevalent among the men, and some time elapsed before it was discovered, that they had two resources for the introduction of liquor into the barracks.

The first arose from the situation of the barracks, the back windows in the upper floor of which (opening into the town), the soldiers availed themselves of the duskiness of the evening, to drop an empty bottle suspended by a string from the window, which when filled they by the same means drew up into the apartment again, and this system was for some time carried on, without reaching the ears of the officers.

The second plan was conducted by the women, who, under the plea of bringing in water or milk for the use of their families, contrived to introduce a cork at the bottom of the spout of the tea-kettle, and filled up the spout with water or milk, while the body of the tea-kettle was the vehicle for rum. Upon being questioned by the sentry respecting the contents of their kettle, as a proof of their innocence, they poured out
the

the contents of the spout, consisting either of water or milk, and in this manner for a time evaded the vigilance of enquiry; but at length they were detected, and prevented from carrying on any longer a custom, so destructive to the health and morals of the men.

The situation of the hospital was by no means favorable to the recovery of the sick; since it was placed upon a low part of the barrack-yard, where after the heavy rains, the water lodged for some extent around it, and remained stationary for a considerable time; by which the building was rendered damp, and the patients were exposed to the exhalations which such a situation must naturally produce.

Nearly to windward and close to the hospital, was situated the barrack necessary, whence after the heavy rains, and particularly if it was not corrected by lime, an intolerable and most offensive stench was produced; which frequently extended over the whole barrack-yard, and no doubt affected the health of the men in barracks, and influenced the force of disease in the hospital.

hospital. Since the new barracks have been finished, this necessary has been filled up, and another placed in a different part of the barrack yard; while the ground round the hospital has been considerably raised, by which the water is now prevented from lodging, and the hospital is at present occupied by the 20th Light Dragoons.

The 62d regiment however did not experience more sickness than might be expected in a regiment quartered in Spanish Town, until the month of August 1793, when and for some time after this period, it was the most unhealthy regiment in the island. Fever was the prevailing disease, and though of the remittent kind, yet it terminated very rapidly in a fatal form. As a proof of the difference of health, in the different years, it appears that in 1791 the regiment lost seventeen men only, in 1792 twenty-one, and in 1793 forty-two men *.

* As I was transferred from the 20th Light Dragoons to the 62d regiment about this period, I had a full opportunity of attending this regiment in its most sickly state.

In the beginning of the year 1794, the common endemic put on a favorable type, and the regiment soon became more healthy; this event was secured upon their being afterwards moved into the new barracks, which were divided between this regiment and the 20th Light Dragoons.

It is however to be remarked, that from this period until this regiment was drafted in January 1797, during which time it had been stationed in Spanish Town, the Maroon Town, Montego Bay, Stoney Hill, and Kingston, that though the mortality was lessened, yet there was always a great number of men on the sick list, and at Stoney Hill, ulcers which had been acquired either on the Maroon service, or at that post, were very numerous and perplexing to the surgeon.

There may be various causes assigned for the sick list being always so very full in this regiment; and among these may be mentioned, the worn-out state of the men, and particularly of the drafts it had received from other regiments; the constant habit that too many of the men had acquired

acquired in acts of intemperance, by which their constitutions were nearly destroyed ; and the fatigues and exposure to climate, the regiment experienced in the Maroon campaign. And here it may be regretted, that commanding officers, whose zeal, and motives on such occasions, cannot be too much admired, from an over anxiety to perfect their regiments, should carry their system of discipline, and field exercise to a length, that in a tropical climate has so often proved destructive to the health of the men. It should be recollected, that the powers of the body in such a climate, are by no means the same as they would be in Europe ; and that here from the various ways in which the constitution is affected, they are very unequally distributed. It is therefore to be hoped, that some system of discipline and field exercise adapted to tropical climates will be introduced, by which all regiments on the West India service should be regulated ; and which can extend no further than what is absolutely necessary for the good of the service.

STATE of HEALTH of the 62d REGIMENT, between the 1st of May 1794 and the 1st of January 1797.

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1794.					
1st May	SPANISH TOWN	267			
1st June		264	25	3	—
1st July		277	31	6	—
1st August		268	61	8	1
1st September		265	54	4	—
1st October		267	35	2	—
1st November		269	34	2	—
1st December		268	35	2	—
1795.					
1st January	SPANISH TOWN	267	26	5	—
1st February		265	33	2	—
1st March		264	28	1	—
1st April		261	21	4	—
1st May		257	23	2	2
1st June		288	31	2	2
1st July		285	41	4	2
1st August		281	32	3	4
1st September	{ SPANISH TOWN and MAROON SERVICE }	281	15	—	1
1st October	{ SPANISH TOWN MAROON SERVICE, & MONTIGO BAY }	279	10	4	—
1st November	{ SPANISH TOWN and MAROON }	273	15	6	3
1st December	TOWN	267	18	7	—
Carried over				67	15

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.	
1796.	Brought over	—	—	67	15	
1st January	} SPANISH TOWN MAROON TOWN, and KINGSTON {	332	39	2	3	
1st February		327	27	12	1	
1st March		431	33	1	5	
1st April		431	22	1	1	
1st May						
1st June	} KINGSTON, STONEY HILL, and SAVANNA LA MAR {	426	61	3	2	
1st July		433	53	3	1	
1st August	} STONEY HILL and SAVANNA LA MAR {	420	38	3	10	
1st September		419	48	3	1	
1st October		413	51	7	3	
1st November		419	51	1	1	
1st December		419	47	1	1	
1797.						
1st January	} KINGSTON and SAVANNA LA MAR {	418	37	1	1	
Total				104	40	

Annual Proportion of Mortality.

1st Year	-	-	-	-	3 in 21.
2d Year	-	-	-	-	3 in 42.
3d Year	-	-	-	-	3 in 57.

General Proportion of Mortality.

Total number of men in the regiment, between the 1st of May 1794 and the 1st of January 1797	} 473
Proportion of deaths to total number of men	
Proportion of deaths and discharged to total number of men	} 4 in 13

SECT.

S E C T. V.

BRIGADE OF DRAGOONS.

THIS brigade, consisting of detachments from the 13th, and 17th Light Dragoons, arrived in Jamaica the latter end of July 1795, amounting to two hundred and forty two men. They were first employed on the Maroon service ; and were afterwards detached and stationed at the various quarters of Savanna la Mar and Black River on the south side, and at Montego Bay and Lucea on the north side of the island.

Between the 1st of August 1795 and the 1st of May 1797 the brigade lost one hundred and two men.

Their proportion of deaths therefore is as follows :

Total number of men,	-	-	262
Proportion of deaths to total			
number of men	-	-	3—7

The

The mortality in this brigade is another strong proof of the unhealthiness of the posts on the sea-coast.

A detachment of the 18th Light Dragoons formed a part of the above brigade, on its arrival in Jamaica ; but as it only remained two months in the island, it has not been included in the above statement. It consisted of about one hundred and twelve men, out of which it experienced a mortality of thirteen, in that short time.

SECT. VI.

EIGHTY-THIRD REGIMENT.

THIS regiment arrived in Jamaica the latter end of July 1795, and was originally intended for service in St. Domingo; for which place it had left Port Royal, when, in consequence of the Maroon disturbance, a vessel was dispatched from the east end of Jamaica to meet the fleet, and order the vessels conveying the troops to make the best of their way to Montego Bay, on the north side of the island: this regiment was there disembarked, and part of it was immediately employed on the Maroon service.

This corps was newly raised, and that portion of it quartered in Jamaica, (for there were some companies left in St. Domingo,) on the 1st of August 1795, amounted to four hundred and seventy-nine effective men: it however enjoyed advan-

tages, which few young regiments can at first acquire. The commanding officer who had raised the men, had been very particular in the description, character, and appearance of his recruits ; and by his conciliating manner, his strict discipline, and his judicious interior arrangement, he very easily moulded both officers and men into habits, and a form, which are only to be observed in long established, and the best-regulated regiments ; for though the most rigid discipline was preserved, yet the commanding officer was considered more in the character of a father and friend, by whose advice and direction all from inclination were regulated, than in that of one, who influenced their conduct under the impression of fear, and the cold but necessary obedience, due to a superior officer.

The loss of such a man to the regiment, and to the service in general, was of course irreparable ; especially to the corps which had experienced the value of a commander, whose admirable qualifications had raised its situation beyond that which young regiments in general attain.

This

This regiment was however composed of too many young, healthy men, to secure it against the mortality which was likely to arise, from stationing them on the sea-coast, before they were assimilated to the climate; and we observe in the annexed statement, that at Montego Bay in particular, the number of deaths was alarmingly great. This quarter has ever proved sickly to the troops, and partly arises from the situation of the barracks, but more particularly from the easy manner in which the men can indulge in intemperance.

STATE of HEALTH of the 83d REGIMENT,
between the 1st of August 1795 and the 1st of
May 1797.

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1795.					
1st August	{ KINGSTON, MAROON TOWN, PORT ANTONIO, MONTEGO BAY }	497	—	—	—
1st September		467	27	12	—
1st October		454	143	7	—
1st November	{ MAROON TOWN, PORT ANTONIO, MONTEGO BAY }	435	106	18	—
1st December		427	167	6	—
1796.					
1st January	{ MAROON TOWN, PORT ANTONIO, MONTEGO BAY }	421	55	5	—
1st February		419	54	2	—
1st March	{ MAROON TOWN and PORT ANTO- NIO }	415	57	4	—
1st April		411	58	4	—
1st May	{ MAROON TOWN and MONTEGO BAY }	411	83	—	—
1st June		410	47	1	—
1st July	{ MAROON TOWN and MONTEGO BAY }	407	48	3	—
1st August		392	44	15	—
1st September	{ MAROON TOWN MONTEGO BAY and FAL- MOUTH }	331	36	27	34
1st October		322	38	9	—
1st November	{ MAROON TOWN MONTEGO BAY and FAL- MOUTH }	318	33	4	—
1st December		35	36	3	—
Carried over				120	34

PERIODS.	STATIONS.	Complement or Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1797.	Brought over			120	34
1st January	MAROON TOWN, MONTEGO BAY, and FALMOUTH. MAROON TOWN, MONTEGO BAY, FALMOUTH, and KINGSTON	313	72	4	—
1st February		374	78	—	—
1st March		373	55	1	—
1st April		372	45	3	—
1st May		371	42	1	—
Total				129	34

Annual Proportion of Deaths.

1st Year	-	-	-	3 in 18.
2d Year	-	-	-	3 in 27.

General Proportion of Mortality.

Total number of men, between the 1st of August 1795 and the 1st of May 1797	}	- 540
Proportion of deaths to total number of men	-	3 in 13
Proportion of deaths and discharged to total number of men	}	4 in 13

The sick, in the most sickly month, amounted to somewhat less than one half of the whole, and in the most healthy, to one in seventeen.

The greatest mortality obtained principally among the young and healthy; and the most prevailing and fatal disease, was fever in the continued and remittent form.

As a striking proof of the superior advantage of placing troops in the mountainous situations, I have introduced a separate statement of that part of the 83d regiment that was stationed at the Maroon Town, at which, from being head-quarters, there was seldom less than half the regiment quartered.

STATE of HEALTH of that part of the 83d REGIMENT which was stationed at the *Maroon Town*, between the 1st of Sept. 1795 and the 1st of May 1797.

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1795.					
1st September	- - - - -	244			
1st October		244	12	1	1
1st November		283	10	1	1
1st December		101	16	2	1
1796.					
1st January	} MAROON TOWN }	161	14	2	1
1st February		179	14	1	1
1st March		187	12	1	1
1st April		282	15	1	1
1st May		280	15	1	1
1st June		285	10	1	1
1st July		280	10	1	1
1st August		178	11	3	1
1st September		186	12	1	1
1st October		186	12	1	1
1st November		186	10	2	1
1st December		176	12	1	1
1797.					
1st January		176	12	1	1
1st February		186	14	1	1
1st March		121	16	1	1
1st April		115	12	1	1
1st May		115	10	1	1
Total			12		

N. B. Six of the patients who died at the Maroon Town came up dangerously ill from Montego Bay, and therefore their deaths cannot be attributed to the situation, nor be included in the following calculation.

Annual Proportion of Mortality.

1st Year	-	-	-	3 in 144.
2d Year	-	-	-	3 in 240.

Number of Deaths from the detachments of the 83d regiment, as they happened at the different posts, between August 1795 and May 1797.

POSTS.						DEATHS.
Maroon Town	-	-	-	-	-	23
Falmouth	-	-	-	-	-	4
Port Antonio	-	-	-	-	-	11
Montego Bay	-	-	-	-	-	89
Fort Augusta	-	-	-	-	-	4
Kingston	-	-	-	-	-	9
Total						140

N. B. Eleven of the deaths at the Maroon Town, were men killed by the enemy; six came up sick from Montego Bay; and the remainder were ulcers and schrophulous cases.

The statement of the 83d regiment at the Maroon Town, strongly corroborates the advantage, I have already pointed out, to be derived from quartering the troops in the mountains, and interior of the country; since, during a period of twenty-one months, there

there only occurred twelve deaths by disease ; six of which originated from causes existing at Montego Bay ; and the others occasioned by diseases that might happen in the most healthy situation of every country : the proportion of sick to the number of men was also trifling, compared to what happened at the other posts, and as every part of the 83d regiment was under equal advantages with respect to the description of men and discipline, the great mortality that occurred in those situations, where detachments only were stationed, shews at once the superior healthiness of the Maroon Town.

SECT. VII.

*HUNDRED-AND-THIRTIETH
REGIMENT.*

THIS corps arrived in the island, at the latter end of July, under all the disadvantages of a new raised regiment. The men were of that description, which are usually picked up during the hurry and bustle of war; without attention to age, constitution, or character. The regiment had also experienced a very tedious passage, during which from the irregular and undisciplined state of the men, the foundation of its future sickness took place; since cleanliness and other necessary arrangements with difficulty were observed on board the transports. The period of its arrival was also very unfavorable to unseasoned, and undisciplined troops; while from the barracks at Port Royal being the only quarter that was ready for its accommodation, they were placed

placed in a situation which under such circumstances was not suitable to the health of the troops. The barracks proved much too small for the number of men, which with the want of discipline in the corps, contributed very considerably to their not being kept clean; from these causes the air of the barracks was impregnated with the most unwholesome effluvia, while their situation rendered it in a great measure impracticable to prevent such men from being guilty of the most unlimited irregularities; they consequently exposed themselves to all the effects of intemperance, exposure in the sun, and at night to the land-wind.

A fever of the typhus kind, combined with symptoms of the tropical fever, very shortly appeared among both men and officers, and carried off a number of the former, in the most rapid manner; the disease often finishing its course in three days. The number of sick and deaths, threw the whole regiment into a state of despondency, which hastened the destruction of many, who probably would have recovered, or
escaped

escaped an attack ; and had not the healthy part of the men been moved immediately up to Stoney Hill, it is probable in another month, there would have been very few survivors. This arrangement put a stop to the progress of the disease, among those who had not been previously taken ill ; for at Stoney Hill there happened three deaths only ; while the others which remained, recovered much faster, from being more separated ; by which the mortality was also considerably lessened at Port Royal, as appears by the following statement.

This circumstance strongly points out the utility, of stationing such regiments in the mountains on their first arrival, and shews what little service is to be expected from quartering them in the plains or sea-coast.

STATE of HEALTH of the 130th REGIMENT,
between the 1st of August 1795 and the 1st
of October 1795.

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1st September	PORT ROYAL	762	172	38	—
1st October	{ PORT ROYAL and STONEY HILL. }	724	143	19	—
Total				57	

November, embarked for St. Domingo.

Proportion of Deaths to number of Men.

Original complement on the 1st of August	-	700
Proportion of deaths	-	3—37

SECT.

SECT. VIII.

*THE FIRST REGIMENT OF IRISH
BRIGADE.*

THIS regiment, which consisted of four hundred and ninety-one effective men, arrived in Jamaica in the month of July 1796; furnishing a very melancholy instance, of the consequences produced by sending a corps to be formed in the West Indies. The officers it is true, were many of them natives of Ireland; but they had all received their private, and military education in the service of the French monarchy.

It is well known, that the French soldiers at that time, were of a docile disposition, and easily disciplined; consequently they required none of those coercive means to form them into soldiers, or to preserve their military acquirements, which often are indispensably necessary in the British service. It thence followed, that the officers

cers of the regiment were intrusted with the command of men, with whose characters and habits, they were totally unacquainted; and who required a system to be adopted very different to that, in which they had been educated. The men of this regiment, were principally composed of recruits of all ages, constitutions, and characters; and enlisted from the very lowest class of the people in Ireland. It was therefore not likely that these troops, should be reduced to a state of good order, or military uniformity by officers, who in carrying on command had been accustomed to make use of gentle rebukes, slight confinement, or at most, mild corporal punishment.

Previous to the embarkation of this regiment at Spike Island, it had suffered by the fever prevailing at that quarter; which possessing an infectious tendency, the seeds of it were still retained by the corps, and from want of attention to a variety of circumstances essential to its prevention, the disease again appeared among the troops on
their

their passage to Jamaica, and they had buried a number of men previous to their arrival.

The regiment was quartered at Fort Augusta, where the same fever once more broke out among the officers and men; and though it retained many of the leading characters of the typhus fever, yet these were also blended with some of the symptoms peculiar to the tropical fever. The effects arising from a dread of the climate, want of cleanliness, and other parts of the interior arrangements of a regiment, and the little command the officers preserved over the conduct of the men, were never more strongly elucidated than in this instance. The disease was so general, and so fatal, that it damped the spirits of the officers and the men to a degree, that threw the whole regiment into a state of despondency; and in many instances, prevented exertions being made that were likely to check the progress of the disease, or to impede its fatal consequences. The men had lost all confidence in themselves, and in

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their

their surgeon; while the officers seemed more willing to resign themselves to their fate, than to be roused to a conviction of the necessity of adopting some decisive means of putting a stop to this alarming calamity. There being no quarters in the mountains, or any other post vacant but Spanish Town, the healthy part of the regiment were moved to that place; with a view of preventing the whole from being sacrificed to the prevailing disease; and under the hopes, that a change of situation might probably destroy its infectious tendency. This effect was in a great measure produced; and the disease which afterwards appeared among the men in Spanish Town, acquired some of the features of the endemic remittent, and was less fatal than at Fort Augusta; but from the irregularity of the men, and the total want of system in every department of the regiment, it still retained too many of its former characters, to prevent its being very generally fatal.

From the following statement a pretty accurate idea may be formed of the mortality which this regiment experienced in Jamaica.

STATE of HEALTH of the 1st Regiment of
IRISH BRIGADE between the 1st of July 1796
and the 1st of March 1797.

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1796.					
1st July	FORT AUGUSTA	491			
1st August	{ FORT AUGUS- TA and SPA- NISH TOWN }	459	55	32	-
1st September	In St. DOMINGO				
1st October	{ FORT AUGUS- TA and SPA- NISH TOWN }	384	101	75	-
1st November	{ SPANISH TOWN }	375	98	9	-
1st December		361	88	14	-
1797.					
1st January	{ SPANISH TOWN }	334	68	17	-
1st February		297	59	37	11
1st March	{ Sailed for St. DOMINGO. }	336	80	24	-
1st April					
Total		208			11

Proportion of Mortality.

Total number of men in the regiment between
the 1st of July 1796 and the 1st of April 1797 } 534
Proportion of deaths to total number of men 2 in 5
Proportion of deaths and discharged to total
number of men } 1 in 2

Thus

Thus during the short period of eight months, the regiment lost and discharged nearly half its original complement; to which may be added the deaths of fourteen of its officers, consisting of the Major, Chaplain, Surgeon, four Captains, and seven Subalterns, exclusive of what may have happened in the month of September, when the regiment was in St. Domingo. I have no doubt but that this event, in which the inutility of sending new-raised regiments to the West Indies, is so strongly elucidated, will make a proper impression on the mind of Government; and will induce it to apply such corps to a service, where they are likely to produce more benefit, without being followed by such serious consequences. It likewise shews the necessity of erecting either permanent or temporary barracks, in the healthy part of the mountains, where a regiment may be sent on its first arrival; which would be the means of checking or destroying infection, and by which the prevention of tropical diseases may be more effectually secured.

P 2

secured. The advantages derived from a measure of this nature, has already been noticed when describing the post of Stoney Hill, where a detachment of the 67th regiment, and the healthy part of the 130th, were preserved from the fatal consequences of a fever, that had previously threatened their total annihilation.

SECT. IX.

*THIRD REGIMENT OF IRISH
BRIGADE.*

THIS regiment arrived at the same period as the first, and as it was in every respect under similar circumstances, in regard to officers, description of men, and discipline, it would be only an unnecessary repetition to enlarge here upon its state of health.

The following statement will shew that it experienced an equal share of sickness and mortality, and will serve to confirm what has been said on the former regiment.

STATE of HEALTH of the 3d Regiment of
IRISH BRIGADE, between the 1st of July 1796
and the 1st of February 1797.

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1796.					
1st July	{ KINGSTON, and PORT ROYAL }	473			
1st August		458	89	21	-
1st September		365	104	93	-
1st October	{ KINGSTON, PORT ROYAL, and SPANISH TOWN }	368	60	17	-
1st November		368	121	5	-
1st December	{ SPANISH TOWN and PORT ROYAL }	350	114	26	1
1797.					
1st January	{ SPANISH TOWN }	330	116	20	-
1st February		309	62	21	39
1st March	{ Drafted into the 1st Regiment of Irish Brigade }	Total		203	40

Proportion of Mortality.

Total number of men in the regiment between
the 1st of July 1796 and the 1st of Feb. 1797 } 452
Proportion of deaths to total number of men 3 in 6
Proportion of deaths and discharged to total
number of men - - - } 3 in 4

SECT. X.

FORTIETH REGIMENT.

THIS corps arrived in the island from St. Vincent's in the month of December 1796, where it had acquired a number of bad ulcers, which formed the principal part of its sick. It was stationed at Fort Augusta, and though during the first month, it lost many of its men from ulcer, aggravated by a dysenteric affection; yet very much to the credit of its commanding officer, and surgeon, it embarked in March 1797 for St. Domingo, without having occasion to leave behind a sick man. The effect produced on the health, conduct, and appearance of the men, by the superior discipline, and judicious interior arrangements of their commanding officer, Colonel Spencer, was very conspicuous in this corps; which, with great propriety, might be considered a perfect model of the 13th regiment, when so honorably commanded

by the same officer, and afterwards by Lieutenant-colonel now Major-general Whitelock, at the period it was stationed in Kingston.

STATE of HEALTH of the 40th Regiment, between the 1st of December 1796 and the 1st of February 1797.

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1796. 1st December	FORT AUGUSTA	431			
1797. 1st January		416	56	15	-
1st February		416	26	3	39
March	Embarked for St. Domingo.	Total		18	39

Proportion of Mortality.

Total number of men in the regiment, between the
1st of Dec. 1796 and the month of March 1797 } 434
Proportion of deaths to total number of Men - 3 in 72
Proportion of deaths and discharged to total num- }
ber of men - - - - - 2 in 22

SECT. XI.

SIXTY-THIRD REGIMENT.

THE 63d regiment arrived from St. Vincent's at the same time, and under the same circumstances, as the 40th. The healthy part of the regiment was stationed at Stoney Hill, while the barrack at Up Park Camp, from its situation being more suitable to the cure of ulcers, was used as an hospital.

This regiment proved healthy during the time it was quartered at Stoney Hill; but the ulcers it brought from St. Vincent's were too inveterate, and many of them too far advanced, to admit of being cured in a tropical climate: several operations therefore became necessary, in the hospital at Up Park, which were successfully performed by the surgeon of the regiment; some of the ulcers also were cured at that post; but the greater proportion were in
a state

a state to require their being sent immediately to Europe, to afford them the only chance of recovery.

The regiment was afterwards divided between Stoney Hill, Kingston, Fort Augusta, and Spanish Town, and is now totally fixed at the last quarter, where it has since experienced a great share of sickness and mortality; but as this circumstance happened subsequent to my departure from the island, it does not come within my province, to account for the cause of the regiment proving so sickly since it has been quartered in Spanish Town.

STATE of HEALTH of the 63d REGIMENT,
between the 1st of December 1796 and the
1st of May 1797.

PERIODS.	STATIONS.	Complement of Men on the 1st of the Month.	Number of Sick on the 1st of the Month.	Died during the preceding Month.	Discharged during the preceding Month.
1796. 1st December		531	.		
1797. 1st January	{ STONEY HILL	523	76	8	16
1st February	{ and UP PARK	520	69	1	-
	{ STONEY HILL,				
1st March	{ KINGSTON,	509	84	8	11
	{ FORT AUGUS-				
	{ TA, and SPA-				
	{ NISH TOWN				
1st April	{ KINGSTON,	508	94	-	9
	{ SPANISH TOWN				
	{ and FORT				
	{ AUGUSTA				
1st May	{ SPANISH TOWN	493	98	14	5
	{ and FORT				
	{ AUGUSTA				
		Total		31	41

Proportion of Mortality.

Total number of men in the regiment, between the
1st of December 1796 and the 1st of May 1797 } 524

Proportion of deaths to total number of men - 3 in 51

Proportion of deaths and discharged to total
number of men } 4 in 29

SECT.

S E C T. XII.

*CONCLUSIONS ON THE PRECEDING
REMARKS.*

UPON an accurate review of what has been advanced in the preceding chapters, on the military posts in Jamaica, and the effect they produced on the health of each regiment, it appears that the following inference with great propriety may be drawn.

1. That a regiment, under every disadvantage of improper barracks, bad discipline, and injudicious interior arrangement, will experience much less sickness and mortality, when stationed in the mountains, than under the most favorable circumstances of that nature, in the plains or on the sea-coast.

2. That even in the most unhealthy quarter, much sickness and mortality may be prevented by proper discipline, and judicious

dicious interior arrangement; and therefore that regiments commanded by officers who have seen the most service in a tropical climate, and who have devoted their attention to the interest and comfort of the soldier in the West Indies, will be the most likely to enjoy health in such a situation.

In support of the first position, the preceding remarks, it is to be hoped, will bear sufficient testimony; but for the purpose of placing the matter beyond a doubt, a reference to the state of the following corps, will shew at one view, how unfavorable all the quarters on the plains and sea-coast are, to troops which have not been assimilated to the climate. The 20th Light Dragoons and Irish Brigade in Spanish Town; the brigade of dragoons at Black River and Savanna la Mar; the 16th and 83d regiments at Montego Bay and the north side; and the Irish brigade and the 130th regiments at Kingston, Port Royal, and Fort Augusta: while after a longer residence, the 20th Light Dragoons, the 10th and 16th Infantry, with the 62d and
the

the 63d regiments, the whole of which at a subsequent period, had been quartered; some years in the West Indies, and from being established corps, were under the advantages of a more judicious discipline than many of the former, sufficiently prove Spanish Town and Kingston to be injurious even to the health of assimilated troops; since it appears that in the most healthy year, the deaths did not amount to less than one in eighteen.

The 130th regiment, and the detachment of the 67th, both composed of men newly arrived; the former laboring under all the disadvantages of being newly raised, and of having contracted a mortal fever when quartered at Port Royal; and the men of the latter already much reduced by sickness while on board the transport, were stationed at Stoney Hill; while a part of the 83d regiment, composed of men principally in the vigor of life, and therefore most likely to suffer in a tropical climate, were quartered at the Maroon Town. The whole of these troops enjoyed as great a share

share of health, as they probably would have experienced in Europe; while the 10th, the 62d, and the 63d, proved such situations to be equally favorable to the assimilated constitution. It also appears that upon comparing the mortality among the troops stationed on the plains and sea-coast with that of the mountains, and observing a medium between the most healthy and the most sickly situation, and year of each, that the deaths were 3 in 35 in the plains, and 3 in 134 only in the mountains.

The following statements of the regiments quartered in Jamaica between the years 1789 and 1794, will also serve to confirm this position; at the same time they will shew the degree of health the troops enjoyed previous to the year 1793.

A Comparative TABLE of the SICKNESS, RECOVERY, DEATHS, and DISCHARGED, from the ARMY in JAMAICA, as they happened at the different Posts, between the Years 1789 and 1794.

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1790.

ON THE DISEASES OF

REGIMENTS.	STATIONS.	Number of Men in the Regiment during the Year.	Number of Sick admitted during the Year.	Number of Sick discharged from the Hospital during the Year.	Number died during the Year.	Number discharged from the Regiment.	Proportion of Deaths to the Number of Sick.	Proportion of Deaths to the Number of Men in the Regiment.	Proportion of Deaths and Discharged to the Number of Men in the Regiment.
1st Royals	{ Six Months in the Island. } Fort Augusta	412	412	379	10	6	1 in 91	1 in 91	2 in 51
10th Infantry	Spanish Town and Stoney Hill	453	493	455	28	20	2 in 35	1 in 16	2 in 19
14th Infantry	Up Park and Kingston	385	446	430	20	9	4 in 89	4 in 77	4 in 53
9th Regiment	Stoney Hill { Six Months in the Island. } Fort Augusta, Port Royal, and Apollles' Battery	427	321	306	4	8	1 in 80	1 in 102	2 in 71
62d Regiment		408	200	160	7	1	2 in 57	1 in 58	—
* Total Proportion		2085	1872	1730	69	43	2 in 53	4 in 121	2 in 37

* Dr. Wright, Assistant Inspector of Hospitals, favored me with a great part of the materials of this and the four following Tables.

REGIMENTS.	STATION.	Number of Men in the Regiment during the Year.	Number of Sick ad- mitted during the Year.	Number of Sick dis- charged from the Ho- spital during the Year.	Number died during the Year.	Number discharged from the Regiment.	Proportion of Deaths to the Number of Sick.	Proportion of Deaths to the Number of Men in the Regi- ment.	Proportion of Deaths and Discharged to the Number of Men in the Regiment.
1st Royals	Kingston and Up Park Camp	424	588	550	21	28	1 in 28	1 in 20	2 in 17
10th Infantry	Stoney Hill - - -	463	337	330	11	46	2 in 61	1 in 42	1 in 8
13th Infantry	{ Nine Months in the Island. Fort Augusta and Kingston }	395	534	492	12	7	2 in 89	1 in 33	2 in 41
62d Regiment	Spanish Town - - -	526	595	556	17	44	1 in 35	1 in 16	2 in 17
Total Proportion		1808	2054	1928	61	125	3 in 100	4 in 119	2 in 19

1792.

REGIMENTS.	STATIONS.	Number of Men in the Regiment during the Year.	Number of Sick admitted during the Year.	Number of Sick discharged from the Hospital during the Year.	Number died during the Year.	Number discharged from the Regiment.	Proportion of Deaths to the Number of Sick.	Proportion of Deaths to the Number of Men in the Regiment.	Proportion of Deaths and Discharged to the Number of Men in the Regiment.
20th Light Dragoons	{ Six Months in the Island. Up Park Camp and Spanish Town }	150	355	305	22	1	1 in 16	2 in 13	1
1st Royals	Up Park Camp	402	355	364	11	25	1 in 32	2 in 73	1 in 11
10th Infantry	Stoney Hill	388	312	314	15	7	2 in 41	3 in 76	2 in 35
13th Infantry	Kingston	376	537	494	29	15	2 in 55	1 in 13	3 in 25
16th Infantry	{ Three Months in the Island. Montego Bay }	295	325	171	21	1	2 in 31	1 in 19	1
20th Infantry	{ Three Months in the Island. Up Park and Fort Augusta }	336	220	167	8	1	2 in 55	1 in 42	1
49th Regiment	Fort Augusta	397	556	508	23	20	1 in 24	1 in 17	8 in 73
62d Regiment	Spanish Town	352	641	641	21	8	2 in 61	2 in 33	1 in 12
	Total Proportion	2696	3301	2964	150	75	1 in 22	2 in 36	2 in 29

REGIMENTS.	STATIONS.	Number of Men in the Regiment during the Year.	Number of Sick admitted during the Year.	Number of Sick discharged from the Hospital during the Year.	Number died during the Year.	Number discharged from the Regiment.	Proportion of Deaths to the Number of Sick.	Proportion of Deaths to the Number of Men in the Regiment.	Proportion of Deaths and Discharged to the Number of Men in the Regiment.
20th Light Dragoons	Spanish Town	385	921	859	67	1	2 in 27	2 in 11	-
1st Royals	Up Park Camp	407	488	433	22	12	1 in 22	2 in 37	1 in 12
10th Infantry	{ Stoney Hill, Up Park, and the North-side	326	289	256	9	10	1 in 32	1 in 36	1 in 17
13th Infantry	{ Six Months in the Island.	362	179	162	3	11	1 in 59	1 in 120	1 in 26
16th Infantry	{ Kingston	276	684	767	62	33	1 in 11	2 in 9	1 in 3
20th Infantry	{ Montego Bay and the North-side	335	739	698	22	13	2 in 66	4 in 61	2 in 19
49th Regiment	{ Port Royal, Apostles' Battery, and Kingston	356	430	437	7	10	2 in 133	1 in 51	1 in 21
62d Regiment	{ Fort Augusta	334	491	457	42	9	2 in 23	1 in 8	2 in 13
	Spanish Town	2781	4221	4069	234	99	1 in 181	2 in 231	2 in 17
	Total Proportion								

1794.

From the 31st of December 1793 to the 1st of July 1794.

REGIMENTS.	STATIONS.	Number of Men in the Regiment during the above Period.	Number of Sick ad- mitted during the above Period.	Number of Sick dis- charged from the Ho- spital during the above Period.	Number died during the above Period.	Number discharged from the Regiment during the above Pe- riod.	Proportion of Deaths to the Number of Sick.	Proportion of Deaths to the Number of Men in the Regi- ment.	Proportion of Deaths and Discharged to the Number of Men.
20th Light Dra- goons	Spanish Town -	186	241	234	21	9	2 in 23	2 in 17	1 in 6
1st Royals	Up Park Camp: three Months in the Island	384	164	173	14	3	3 in 34	1 in 28	-
10th Infantry	Stoney Hill, Kingston, and Up Park Camp	299	257	249	28	6	1 in 9	2 in 21	3 in 25
16th Infantry	Montego Bay and Fort Augusta -	252	78	106	6	56	1 in 13	2 in 83	1 in 4
62d ———	Spanish Town -	314	189	171	14	5	1 in 13	1 in 22	2 in 33
	Total Proportion	1435	929	933	83	76	1 in 11	2 in 35	1 in 9

Upon taking the medium between the most healthy and the most sickly of the four and a half preceding years at each of the posts, the following appears to be nearly the ANNUAL MORTALITY that happened at each post, proportioned to the number of men:

At Montego Bay and the other Posts on the North-side			2 in 18.
Spanish Town	-	-	2 in 22.
Kingston	-	-	2 in 40.
Up Park	-	-	2 in 55.
Port Augusta	-	-	2 in 68.
Port Royal and Apofles' Battery	-	-	2 in 74.
Stoney Hill	-	-	2 in 127.

The following is the ANNUAL PROPORTION of MORTALITY in the several REGIMENTS quartered in JAMAICA between the 1st of May, 1794 and the 1st of May 1797, agreeable to the Calculations from each Regiment.

REGIMENTS.	STATIONS.		PROPORTION.
	1st YEAR.		
20th Light Dragoons	Spanish Town	-	3 in 28
10th Infantry	Two Months in Detachments, the rest in Kingston	-	3 in 17
16th Infantry	Fort Augusta	-	3 in 64
62d Regiment	Spanish Town	-	3 in 21
	2d YEAR.		
20th Light Dragoons	Spanish Town	-	3 in 21
16th Infantry	Kingston Six Months	-	3 in 18
62d Regiment	{ Detached and divided between Spanish Town, Maroon Town, } Kingston, and Montego Bay	-	3 in 42
13th Light Dragoons	Black River, Savanna la Mar, and Maroon Service	-	3 in 10
17th Dragoons	Out-Posts on the North-side	-	3 in 13
83d Regiment	Maroon Town, Montego Bay, and Port Antonio	-	3 in 18
Ditto Detachment	Maroon Town	-	3 in 144
120th Regiment	Port Royal and Stony Hill two Months	-	3 in 27

		3d YEAR.	
20th Light Dragoons	Spanish Town	-	3 in 29
62d Regiment	Kingston, Stoney Hill, and Savanna la Mar: six Months	-	3 in 57
13th Light Dragoons	Black River and Savanna la Mar	-	3 in 9
17th Light Dragoons	Lucea six Months	-	3 in 70
83d Regiment	Maroon Town, Montego Bay, and Port Antonio: nine Months	-	3 in 27
Ditto Detachment	at the Maroon Town	-	3 in 240
1st Irish Brigade	Fort Augusta and Spanish Town: eight Months	-	3 in 7
3d Irish Brigade	Kingston, Port Royal, and Spanish Town: seven Months	-	3 in 6
40th Regiment	Fort Augusta: three Months	-	3 in 72
63d Regiment	Stoney Hill, Up Park, Kingston, and Spanish Town five Months	-	3 in 51

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Upon taking a medium between the most sickly and most healthy of the three twelvemonths between 1794 and 1797, at the Posts on the Plains and Sea-coast, and the same at the Maroon Town, the following appears to be the Proportion of Mortality of each annually:

The most healthy year on the Plains and Sea-coast, 16th Regiment, Fort Augusta, 3 in 64.
 The most sickly ditto ditto, 3d Irish Brigade, 3 in 6.

Medium 3 in 35.

The most healthy year at the Maroon Town, 83d Regiment

3 in 240.

The most sickly at ditto

3 in 144.

Medium 3 in 192.

It appears that within a period of seven years and a half, the deaths among the troops in Jamaica by disease only, amounted to 1604, and the discharged, to 728 men; which deprived the service in that island, of 2332 effective men. It is also evident upon calculation, that if the whole of the force had been stationed in situations, equally healthy with the Maroon Town, or even Stoney Hill, that more than three-fourths of the lives of those men, certainly would have been saved; independent of the number of men discharged, who probably would have continued in the island, and added to the strength of their regiments.

I do not consider myself competent to judge, what sum exactly may be required to raise, equip, or convey a soldier to the West Indies; but when all contingencies are included, I may safely assert, that it cannot amount to less than thirty pounds. At this rate, to supply the number of men lost to the service of Jamaica during the above period, would require the sum of

69,960l.;

A TABLE, shewing the General Proportion of DEATHS and DISCHARGED to the Total Number of MEN in each REGIMENT, between the 1st of MAY 1794 and the 1st of MAY 1797.

REGIMENTS.	Where quartered at different Periods.	Periods of Residence.	Total Number of Men in that Period.	Total Number of Deaths in that Period.	Proportion of Deaths to Total Number of Men.	Total Number discharged in that Period.	Proportion of Deaths and discharged to Total Number of Men.
20th Light Dragoons	Spanish Town - - - - -	36 Months	394	98	1—4	11	2—7
10th Infantry -	Stoney Hill, Kingston, and Up Park Camp -	13 Months	278	48	3—17	4	3—17
16th Infantry -	Fort Augusta, Kingston, and the Maroon Service -	19 Months	236	36	2—13	85	1—2
62d Regiment -	{ Spanish Town, Maroon Service, Montego Bay, } { Stoney Hill, Savanna la Mar, and Kingston }	32 Months	473	104	2—9	40	4—13
13th Light Dragoons	Black River, Savanna la Mar, and Maroon Service	20 Months	140	72	1—2	1	1—2
17th Light Dragoons	Maroon Service, Montego Bay, and Lucea -	17 Months	122	30	2—9	2	2—7
83d Regiment -	{ Maroon Town, Montego Bay, Port Antonio, } { and Kingston - - - - - }	21 Months	540	129	3—13	34	4—13
130th Regiment -	Port Royal and Stoney Hill - - - - -	2 Months	700	57	3—37	—	—
1st Irish Brigade -	Fort Augusta and Spanish Town - - - - -	7 Months	534	208	2—5	11	1—2
3d Irish Brigade -	Kingston, Port Royal, and Spanish Town - - -	7 Months	452	203	8—17	40	3—4
40th Regiment -	Fort Augusta - - - - -	3 Months	434	18	1—24	39	2—22
63d Regiment -	{ Stoney Hill, Kingston, Up Park, Fort Augusta, } { and Spanish Town - - - - - }	5 Months	524	31	1—17	41	4—29
Total Proportion of Deaths and Discharged to the Total Number of Men			4827	1007	3—13	308	3—10



69,960*l.*; and to make up the deficiency of deaths, (independent of those discharged,) which probably might have been prevented by stationing the troops in the mountains, would expend the sum of 36,000*l.*

These strong and undeniable facts, cannot fail to impress the mind with a melancholy reflection, on the dreadful ravages to which our troops have been exposed in tropical climates; and as the impulse of humanity, the dictates of policy, and the necessity of economy, urge us to enquire, whether it be practicable to adopt such measures as may be the most likely to lessen an evil, so fatal to the population of the country, so destructive to our resources, and so repugnant to the humanity of the British nation; it is earnestly to be hoped that such considerations as have been offered, may be favorably received and judged of, by the patron of the British army, under whose protection, it daily acquires new advantages; and therefore we may be satisfied that such measures will be taken, as the importance of the case requires,

quires, and circumstances will permit. It consequently becomes a matter for consideration, but more in the province of the military than the medical profession to determine, whether garrisoning the two principal towns, and some few of the posts on the sea-coast, be likely to secure the island, against the consequences of insurrection; or in case of foreign invasion, to prevent the enemy from possessing those strong holds in the interior of the country, which are most likely to promote the conquest of the island.

Jamaica, it has already been explained, is of an oblong form; the great bulk of it being occupied by mountains of different heights, shapes, and directions; a large proportion of these is covered with thick, impenetrable woods; while they are divided either by chasms, narrow defiles, wide vallies nearly approaching to plains, or by cock pits; that is, by extensive hollows; many of which are also closely occupied with wood.

The communication between the mountains in general, is extremely difficult, and
in

in many places, can only be passed by negroes, habituated to such attempts; while they are perfectly calculated for the concealment of an enemy, the forming of ambuscades, or the evasion of pursuit.

The plains on both sides of the island on the sea-coast, it has also been mentioned, extend to a very small distance from the mountains; and consequently admit of a rapid movement from the interior to the coast; while from the difficulty of access, and the height of many of the mountains, it of course requires a much longer time to approach them from the plains.

It therefore deserves the attention of Government, and the Legislature of Jamaica, whether it be prudent to leave without protection, a portion of the island so extensive and so favorable for the concealment and views of an enemy; and whether by a judicious disposition of the forces, in placing them in the most commanding situations of the interior, the purposes of defence would not be better answered, than in garrisoning the towns on the sea-coast.

The

The experience of former, and the present times evince, that such a plan would be most conducive to the prevention, or suppression of insurrections; and that these calamities have always happened in situations remote from the towns: there are indeed very powerful reasons why such must always be the case, when they occur.

In the towns, the white inhabitants bear a much larger proportion to the negroes, than in the country; and the latter, and people of colour, are so intermixed and connected with the former, that they have not those opportunities of being sufficiently together, to form any fixed or decided plan of conduct; while from residing in the families of their owners, their attachment must prevent many of them from entertaining a wish, to engage in a plan for the destruction of their white masters.

In the country, they are very differently situated: they are there in large bodies, engaged in the same employment, which among the idle part of them is considered a grievance. They have little or

no intercourse with the white inhabitants, if we except their manager ; to whom from his being obliged to enforce the exertions of their labor, they cannot be much attached ; they therefore do not possess the same opportunities, of becoming acquainted with the real disposition of the white inhabitants towards the negroes, as their countrymen in the towns ; and of course continue nearly in the same state of ignorance, undivested of their original prejudices, as when they were first landed. Their conduct hence will naturally be influenced by the impulse of the moment, or the representations of the more artful of their comrades, who from motives of resentment, or a restless disposition, may be induced to invite them to revolt. From being left totally to themselves during the hours of rest, they have it in their power to form their plans, and communicate them to the neighbouring properties, without exciting suspicion in their managers ; and as the situation of the country is favorable to their views, they are well aware, in the event of an insurrection, they can traverse it with facility, conceal

conceal themselves, and perpetually harass their enemy, without being much exposed.

The former, and late Maroon wars in Jamaica, and the contention with the Brigands in St. Domingo, are of themselves the strongest proofs of the truth of this position; and of what little utility is the possession of the seacoast, while the strong positions, the recesses, and the holds in the interior of the country, are left without protection *.

* The mountains, named the Atlas, in the dominions of the Emperor of Morocco, which greatly resemble those in Jamaica, afford another corroborating testimony, of the advantages which people, even in the most distant state from civilization, and who are the least acquainted with the art of war, may derive from situation. The inhabitants of these mountains are named Brebes, and though the Emperor, with an immense force, has frequently attempted to subdue them, yet he has never been able to reduce them to the same state of obedience as his other subjects. They still preserve their independence, and pay tribute to their sovereign only when it suits their inclination. If so much resistance can be exerted in such situations, from men who are but a few degrees removed from a state of nature, how much more ought to be accomplished by those, who by education, have been taught the means of improving the advantage of situation, and rendering it subservient to all the purposes of defence, or attack.

I ought

I ought to apologise for introducing remarks apparently so foreign to the subject; but as I think it my duty to omit nothing that can in the least degree contribute to the health of the troops, I hope these observations may not be considered in the light of a misapplied digression. Should they be deemed worthy the attention of Government, and the plan of defence I propose be carried into execution, the climate of Jamaica no longer will become formidable to British soldiers; and the constant expence of furnishing supplies to make up the deficiencies in the complement of regiments, in a great measure will be obviated.

CHAP. IV.

On the prevention of sickness and mortality among his Majesty's troops stationed in the West Indies.

THE climate between the tropics, on so many occasions, has proved destructive to our fleets and armies, that we naturally, (though perhaps hastily) have been drawn into the opinion, that such calamities admit of no palliation; and that with the observance of the best regulations our men must still be rapidly sacrificed, to the unhealthiness of the climate. That a tropical climate is unfavorable to the European constitution; that the mortality under most circumstances, will be greater in the West Indies, than in Europe; or, that the service required from troops when actively employed during war, will inevitably increase that mortality; are positions, that no one, I presume, who has visited the
West

West Indies, will be bold enough to deny. But that by judicious regulations, we do not possess the means of considerably lessening this evil, is an opinion, which admits of the greatest doubt; and which indeed has been fully contradicted by the circumstances attending the troops in Jamaica during the present war. These must be too fresh on the reader's memory, to need recapitulation; I shall merely remind him of the health the troops enjoyed in the mountainous situations; and at the conclusion of the chapter, shall introduce some valuable remarks, furnished me by a friend, which will show how much is to be effected, even in the most unhealthy quarter, by proper discipline, and judicious interior arrangement in a regiment.

It is evident where so much danger is to be combated, and where so many difficulties are to be removed, our means should be proportioned to the importance of the object; and that no secondary considerations should interfere to counteract those measures by which the purpose is likely to

be attained. It is from not rigidly attending to this circumstance, that many valuable regulations which have been recommended for the preservation of the health of the troops, and which have been introduced into the service, have so often failed; and until some general plan is established, for the conduct of every department of the army, and so arranged as to prevent the possibility of its being evaded, it is to be apprehended that every succeeding war will be attended with the same lamentable mortality among the troops, which on such occasions, hitherto has distinguished the service in tropical climates.

The following arrangement I take the liberty of suggesting to his Majesty's Ministers, and to HIS ROYAL HIGHNESS THE COMMANDER IN CHIEF, as being (in my opinion) calculated to prevent sickness and mortality among such of our troops as may be stationed in the West Indies.

1. That in future, no new-raised regiments be sent to the West Indies. The 130th, and the two corps of Irish Brigade, afford

afford a melancholy proof of the fatal consequences, and inutility of such a measure; since the greater proportion of the men either died, or had their constitutions so impaired, as to render the regiment, even before they could be formed, useless to the service on which they were sent: one of the corps of Irish Brigade was drafted after a few months residence in the island; while the other, and the 130th, shared the same fate soon after their arrival in St. Domingo. There are several obvious reasons, why newly-raised regiments must be sickly on their arrival in a tropical climate. These corps generally are formed of men of various constitutions, habits, and ages, many of whom have previously lived an idle, profligate life, by which they either have acquired some permanent disease, or have destroyed their stamina by a course of intemperance; while from not being habituated to the discipline they must necessarily undergo to form them into soldiers, it proves to them a source of fatigue, disgust, and anxiety, which, in a warm climate,

strongly predisposes to sickness. The difficulty with which such men are prevented from being guilty of extensive acts of intemperance, and the time required for a new corps to establish a system of interior arrangement, prove also causes of sickness and mortality to such a regiment in the West Indies; while a dread of the climate, which more readily influences men, unaccustomed to hardships and danger, than the disciplined soldier, who has been frequently exposed to such inconveniences, acts with certain effect in the production of disease in its most fatal form: It is therefore evident that no service can be derived from new-raised corps, stationed in the West Indies, and that the plan totally should be laid aside.

2. That the best disciplined old regiments are the most likely to be healthy in a warm climate; since among many others, the 13th regiment is a striking instance, of the health of the men being preserved in the most sickly quarter in Jamaica, by the superior discipline, and interior arrangement

ment of the commanding officers, and the great attention of the surgeon.

3. That when a regiment is under orders for the West Indies, if practicable, such soldiers as are termed young, strong, healthy men, be drafted into other corps; and the regiment be composed of men, from the age of thirty-five to forty-five, or even fifty. During the sickness which lately proved so fatal in the West Indies, it was observed that such description of young men, were by far the greatest sufferers; and that people in the middle age of life, more frequently either escaped an attack, or passed through the disease with safety. In the 83d regiment, and I may add, all the other corps where much mortality prevailed, this observation was strongly confirmed; while among the newly-arrived inhabitants, when a full, florid, healthy young man arrived, it was a common remark that he was a bad subject for the climate. Young men besides are not under that command which distinguishes the well-formed soldier, and are therefore more

liable to be guilty of imprudences, or to avoid precautions for the preservation of health, than those who have been longer in the service. The system of keeping the regiments for a number of years in the West Indies, and afterwards drafting them into other corps, appears to be on many accounts very objectionable. It has already been noticed, when treating on the diseases of the inhabitants, that it requires a certain period of residence to assimilate the European constitution to a tropical climate; that with great care and attention, health may be enjoyed for some years afterwards; but that there is a period of residence, particularly in the plains and sea-coast, beyond which, (with some exceptions,) Europeans cannot exceed, without risking their health, or an injury to their constitutions; and on this account, it obliges a great proportion to visit America, or return to Europe. If this rule be applicable to the inhabitant, with how much more reason may it be applied to the soldier, who from various causes, has much less chance of enjoying health,

health, or possessing a good constitution after a long residence, than the former. The drafting such men into other corps, is only weakening the means of defence, and shortly sacrificing many of those lives, that might be saved and prove serviceable to their country.

Government will be the best judge, how far the following plan, (which would probably obviate those inconveniences,) may be practicable :

That no regiment remain longer in the West Indies than four or at most six years; and that either such corps be previously stationed two years at Bermuda, or the most healthy of the Bahama Islands, where they would be prepared gradually for a tropical climate; or if the old system of keeping regiments on foreign service be continued, that three years of that period be served in Gibraltar, the same in the Bermuda, or Bahama Islands, and the remainder in the West Indies: and that the system of drafting be totally laid aside.

Thus the constitution of the soldier would be assimilated gradually to a warm climate; and the transition from the temperature of Great Britain, to that of Gibraltar, which is in latitude 36° , and thence to the Bahamas in that of 24° , and Jamaica in latitude 18° , would be so moderate as considerably to lessen the effect now produced on the health of the men, by sending them immediately from Europe to the West Indies.

I am aware that the expence which may arise from adopting this plan, may be brought forward as an objection; but if the advantages are derived from it which it promises, independent of every other consideration, it must surely be deemed a system of economy; as the immense expence of recruiting, and sending out supplies of men, to make up the deficiency by deaths, would in a great measure be obviated.

4. That the troops (if possible) arrive in Jamaica between the months of January and April; those having been proved to be the best, and most healthy months in the year, to all descriptions of people. This effect

effect is produced by the temperature of the air being cooler and drier at this, than at any other period; while the consequences of the rain have been completely removed, by the intervention of the north winds: marsh exhalation therefore is less prevalent or concentrated during these months, which, on the same principle are best calculated for the conducting of military operations, without the risk of affecting the health of the troops.

5. That a regiment never be embarked, until the vessels are ready to sail, and the wind admits of their departure; for though the troops may enjoy health at sea, yet they universally become sickly when confined in ships, that continue long in port. The events of the present war, particularly in the instance of one of the West India fleets, by which the troops (in a great measure from unavoidable causes) remained on board of transports for several months, are too fresh in our memory to render it necessary to bring them forward here, as proofs of the various consequences which are likely

likely to result from adopting a similar plan in future.

6. That the common description of transports having conduced more to the production of sickness to the troops on their passage, and to lay the foundation for the same on their arrival, than any other cause, vessels built as nearly as possible on the plan of the forty-four-gun ships of war, are the best calculated for the preservation of the health of the troops: such vessels therefore as admit of a free circulation of air between decks, and are the most easily kept clean, come the nearest within the description of healthy transports; and those which have only performed one or two voyages, are the least likely to attract, or retain the seeds of infection, and are therefore preferable to old vessels.

7. That great attention be observed, in not crowding the vessels with a greater number of men, than they ought to accommodate; and such arrangements take place, as will effectually prevent the air at night, from being too much impregnated with

with the effluvia of the lungs and bodies of the men.

8. That there be appointed a Board of Military, Naval, and Medical Officers, who have served long in the West Indies, to arrange a plan for the conduct of commanding officers, surgeons, and the captains of transports, who accompany troops on their passage to the West Indies; and that this plan be put in general orders, that it may in no instance be neglected, but be universally adopted on such occasions: in such an event, the cleanliness, ventilation, and frequent fumigation of the vessel; the cleanliness of the men's persons, and airing of their bedding; their exercise, and employment; the dividing them into watches; their messing; the medical treatment, and management of diet on their passage; and even their amusements, will all become objects of consideration*.

* I am informed some regulations of this nature have already been adopted; not having seen them, I am not competent to judge how far they correspond with those which are now proposed; nor can I determine whether they have been rigidly enforced.

9. That

9. That troops be disembarked immediately on their arrival in the West Indies; and that the vessel which conveys them, do not touch at any port in a tropical climate, but the one to which it is destined.

10. That where troops are intended to be employed on an expedition in the West Indies, it will be more advantageous to send them on service immediately after their arrival, since they will possess more strength to go through the hardships and fatigue of a campaign at that period, than afterwards; and it has universally been observed, that troops when employed on actual service in the West Indies, even under the most disadvantageous circumstances, have never been sickly during the time of activity; but as they are more likely to suffer by the climate, when they are moved from the scene of action, to a state of tranquillity; the greater care is requisite, to guard against the sickness to which they are then exposed. In such cases, they should be quartered in the healthiest situations on the mountains.

11. That

11. That regiments never on their first arrival, or afterwards if possible, be stationed in the towns, or on the sea-coast; but that barracks be raised in such situations in the mountains, as the commander in chief may consider most conducive to the defence of the island. The Maroon Town, and Stoney Hill, afford striking instances of the salubrity of such situations; and it is probable that men encamped in the mountains, would enjoy a greater proportion of health there, than in the best constructed barracks, or under the most improved state of discipline in the plains, or on the sea-coast. Should the present system be continued, it at all events would prove no great expence, to have temporary wooden barracks sent out, to be placed in the mountains, for the accommodation of newly-arrived regiments, until they were in some degree assimilated to the climate.

12. That a Board of Military and Medical Officers, who have served long in the West Indies be appointed, to draw out a plan for the conduct of commanding officers,

cers, of such regiments as may be stationed in the West Indies; which plan should be also sanctioned by a general order, that it may in no instance be evaded.

This should embrace the disciplining of the men; the hour and portion of time allotted for field exercise; the attention to cleanliness, and general arrangements of the barracks; the hours, and distribution of the men's messes; the time of relieving the guard; the duties of pioneers; the management of the cantine; the prevention of intemperance, and unnecessary exposure to the sun; the dress adapted to the climate; and the recreations of the soldiers.

Among the various matters suggested above for the consideration of the Board, there appear to be none of so much importance as the mode of conducting field days; the prevention of intemperance, without too much checking the recreations of the men; and the guarding against unnecessary exposure to the sun. I confess myself an enthusiastic admirer of most of that learned author's observations, who has
so

so ably treated on the diseases of tropical climates ; but I cannot (consistently with my own experience) admit of that position in his remarks, wherein he strongly recommends bodily exercise in the sun, for the purposes of seasoning the men to the climate, and preparing them for the exertions to which they may be exposed, when called into actual service in the West Indies. A system so novel in its principle and practice, should only be recommended upon the strongest test of experience ; and I am convinced on these grounds, it will be found to defeat its own object, by destroying more men than it can preserve ; and by injuring the constitutions of the survivors, it will rather tend to disable, than to qualify a regiment, to undergo the inconveniences and danger of climate, when on actual service.

It must be allowed, there are individuals who can take these liberties in a tropical climate, apparently with impunity ; but a few instances cannot be admitted as a proof that the same system shall be equally proper

per and safe throughout a large community ; or that, because a few officers or soldiers, may expose themselves to the most powerful predisposing causes of disease, without being affected by them, that the whole army could do the same, and not suffer by the practice.

The experiment however (too often for the welfare of the army) has effectually been tried, and the consequences have universally proved it to be a dangerous, and most destructive system.

It does not become me to state, what degree of field exercise or discipline may be necessary to answer the useful part of West India service ; but I have no doubt of being supported, by the most experienced military practitioners in the assertion, that more sickness and mortality have arisen from harassing the men in the field, and keeping them too long exposed to the sun, than from any other cause existing in a tropical climate.

Three regiments which have been stationed in Jamaica might be mentioned, where this system was adopted to the great
detriment

detriment of the men's health; and my former experience of its bad consequence, even in more healthy situations, confirm me in the same opinion.

It should be recollected, that however injurious this custom may prove to the general health of the men, yet to many, who have been weakened by frequent attacks of disease, it acts with double force, and certainty; and that if the service require such exertions (of which perhaps some doubts may be entertained) there should be a distinction observed between the robust and the weakly soldier; and therefore degrees of exercise should be proportioned to the powers of the men.

The system of seasoning the troops for the purpose of a campaign, however appears to be unnecessary; since in every expedition, which has taken place in the West Indies during the present war, the troops have universally been free from sickness during the period of activity; and it only became necessary, to guard against the transition from a state of exertion, to that

of relaxation, which more frequently was productive of sickness and mortality. The mind being alternatively occupied, and deeply interested in the prospect of success, and in the various events which are likely to attend all military operations, and the body being exposed to uncommon exertion, serves for the time to suspend the progress of disease, and to convey to the constitution a degree of temporary vigor, which it did not previously possess; but which only exists during the continuance of this excitement to mental and bodily action. When the excitement ceases, the predisposing causes of disease, in a state of rest, are greater than before the campaign; and if proper precautions are not observed, it is at this period, when the most sickness may be expected. This mode of assimilating the men to the climate, is very different in its effects, to that constant employment of the men's minds, which is produced by the performance of the necessary duties, and by innocent recreations; these, by diverting their attention from acts of intemperance,

temperance, and from the despondency that is often induced during the prevalence of much sickness and mortality, promote in a very powerful manner the health of the troops; while they contribute to the good order of the regiment. It is in these particulars, where the commanding officer, by his arrangements, in portioning the proper time for duty, and recreation, and thence preserving a connection of employment, displays his address and superior system of discipline.

The soldier, though on most occasions thoughtless, and therefore not in a habit of reflecting, yet he very soon acquires a knowledge of the character and disposition of his commanding officer: it is probably the only study which engages his attention; and it very early becomes the topic of the whole regiment. If the men are convinced, that their commander warmly interests himself in every thing which concerns their welfare, and comfort, and in other points, endeavours to soften the rigor of command, by reasonable indulgences;

he will seldom find much difficulty in establishing any system of discipline, which he may consider the most conducive to the good order, and health of the regiment: and though in every corps, there are some insensible of such qualifications, yet they will in general be over-ruled by a majority of their comrades, and be compelled at least to give a silent approbation of his conduct.

The prevention of intemperance among the troops, particularly in the West Indies, becomes one of the most difficult, though most important parts of a commanding officer's duty. The climate, opportunity, and the encouragement held out by those who sell liquor, are all powerful inducements to such irregularities; and it becomes a nice point to check this vice, without too rigidly excluding the men from indulgencies, which contribute to promote their health, and reconcile them to their situation.

Much may be effected, by good non-commissioned officers; a strict attention of
the

the guard, in preventing men from leaving the barracks without leave ; and a well-regulated cantine.

The 13th regiment of Infantry, under the command of Colonel, now Major-general Whitelock, having afforded a striking instance, of the health of foldiers, as preserved in the most unfavorable situation in Jamaica, by the superior discipline, and interior arrangement of its commanding officer, I requested Dr. Gordon, Assistant Inspector of hospitals, and formerly surgeon to that corps, to favor me with a detail of the interior economy of the 13th regiment at the period when it was stationed in Kingston ; to which request he very obligingly assented, and furnished me with the following remarks, which are introduced in his own words :

“ The almost unparalleled health, the
 “ high degree of regularity, order, and
 “ discipline of the 13th regiment, while
 “ quartered in the town of Kingston in
 “ Jamaica, (a situation where the remote

“ causes of disease are powerful, and the
“ incitements to debauchery of every kind,
“ infinite,) will long be a theme of ad-
“ miration to the inhabitants of that island;
“ and is a circumstance which deserves to
“ be recorded, as a proof how much may
“ be done by able and zealous officers, in
“ combating the fatal effects of unhealthy
“ situations within the tropics.

“ I joined the 13th in November 1792;
“ they were then quartered in Kingston,
“ were three hundred and fifty strong, and
“ were composed almost entirely of young
“ men, in the prime of life, that period
“ on which tropical diseases commit their
“ greatest ravages. From the month of
“ November 1792, to the middle of Sep-
“ tember 1793, when the regiment left the
“ island, a space of ten months, the number
“ of sick varied from five to thirty-two,
“ (including every man with the most
“ trifling complaint, in short every man
“ who was not either on parade or on
“ duty,) and only eight deaths occurred.—
“ The important effects of the high state
“ of

“ of interior economy (to which alone
 “ the uncommon degree of health of this
 “ regiment was to be ascribed) were shewn
 “ in a very conspicuous point of view
 “ when the active services of the 13th
 “ were suddenly called for. At the acmé of
 “ the sickly season, and after a very short
 “ notice, this regiment embarked for St.
 “ Domingo, every man fit for service, ex-
 “ cept six old cases of disease who were
 “ left in hospital, where they had lingered
 “ many months before. During the first
 “ six months service in St. Domingo, the
 “ 13th did not lose a man by disease, nor
 “ did they suffer much afterwards, till
 “ harassed and worn out by severe and
 “ constant duty, and detached to various,
 “ and unhealthy situations, the finest consti-
 “ tutions were at last obliged to yield to
 “ the baneful effects of the climate.

“ The *interior economy* of the 13th was
 “ established and supported by a code of
 “ regulations as well respecting the health
 “ and comfort as the duty of the men, ma-
 “ turely digested by the commanding offi-

“ cer, and followed up and executed by
“ every description of officer in the regi-
“ ment, with the most persevering atten-
“ tion, and the most minute and rigid
“ punctuality. It would take up too
“ much of your time to detail the various
“ *minutiæ* which composed parts of this
“ system, and were necessary to its complete
“ effect, I shall however with much plea-
“ sure comply with your request, to state
“ those which appear to me the most im-
“ portant.

“ I think it not irrelevant to the subject,
“ to observe first, that the regularity and
“ discipline of the 13th were not produced
“ or supported by severe corporal punish-
“ ments, or any unusual degree of rigor
“ towards the men. Corporal punishments
“ were rare in that regiment; nay, I can
“ assert it as a fact, that for six months to-
“ gether, in the town of Kingston, a cor-
“ poral punishment, or even a court-mar-
“ tial did not take place.—It was a fixed
“ principle with Colonel, now Major-
“ General Whitelock, who commanded

“ the 13th at that time, that every regula-
 “ tion respecting the health and comfort
 “ of the men, should be followed up and
 “ executed under the immediate eye of a
 “ commissioned officer, whose rank was pro-
 “ portioned to the importance of the duty.
 “ Where the execution is entrusted to non-
 “ commissioned officers, which I am sorry
 “ to say, I have seen too often in the West
 “ Indies, either the duty is not performed
 “ at all, or in such a slovenly manner as to
 “ defeat the intention of the regulation
 “ altogether. The importance of this prin-
 “ ciple, did not merely consist in the
 “ certainty of every order being strictly
 “ executed, but it led the officers to be
 “ much among the men, by which the
 “ former became acquainted with the cha-
 “ racters of individuals, and had it in their
 “ power to check tendency to irregularity
 “ in its bud ; while the men observing the
 “ care and attention of their officers to
 “ every thing which concerned their health
 “ or comfort, acquired an unusual degree
 “ of respect and attachment to them, the
 “ result

“ result of gratitude as well as sense of
“ duty. Hence the mere displeasure of
“ the commanding officer, slight censure
“ on the parade, severe rebuke in the field,
“ the refusal of a pass to town, exclusion
“ from the cantine, and the stoppage of
“ the usual allowance of rum, became the
“ ordinary gradations of punishment for
“ common offences in barracks, corporal
“ punishment was reserved as the *ultima*
“ *ratio*, and in general confined to a few
“ old, and hardened offenders.

“ *Barracks and Barrack-duty.*

“ The barracks in Kingston were com-
“ pletely walled round, and were, as far as
“ circumstances of situation would allow,
“ well calculated for the health and com-
“ fort of the men; the only thing which
“ appeared to me wanting, was a continu-
“ ation of the gallery round the north side,
“ to defend the men from the severe land-
“ winds, which blew from that quarter in
“ the night, and early in the morning. The
“ men

“ men at first slept on platforms, but as
 “ these were found a very uncomfortable
 “ bed, and militated extremely against the
 “ cleanliness and free circulation of air in the
 “ barracks, (circumstances of the first im-
 “ portance to health,) Colonel Whitelocke,
 “ ever fertile in expedients for the arrange-
 “ ment and comfort of troops, proposed
 “ to the Assembly, to allow each soldier a
 “ hammock with the necessary apparatus
 “ for slinging it, which was agreed to, and
 “ found a most beneficial arrangement.
 “ The expence attending it was but trifling
 “ when compared with the advantages
 “ which resulted from it, and only tem-
 “ porary, as the regiment being once sup-
 “ plied with their complement, was bound
 “ to keep the number complete and in re-
 “ pair afterwards.

“ The field officers visited the barracks
 “ frequently in the course of the day, and
 “ the commanding officer was almost uni-
 “ formly present at the hour of dinner.
 “ The officers on duty consisted of a Cap-
 “ tain and subaltern, besides the usual
 “ officer

“ officer of the guard. The Captain or
“ subaltern of the day were constantly in
“ the barracks, and were completely re-
“ sponsible to the commanding officer that
“ the standing orders of the regiment were
“ minutely and strictly executed ; and in
“ particular, that the barracks were ex-
“ tremely clean ; all *packs, arms, accoutre-*
“ *ments*, and hammocks arranged in the
“ most compact and neatest manner, so as
“ to allow the most free circulation of air
“ through every part ; that the meals of the
“ men were served up at the stated hours ;
“ and if any of the articles, *particularly*
“ vegetables, were deficient in the messes
“ of any company, to report the same to
“ the commanding officer, who never
“ failed to censure severely so serious a
“ neglect of duty in the Captain or officer
“ paying the company. The Captain of the
“ day visited the hospital, and attended to any
“ complaints of the sick. The cantine was
“ also under his orders, and he was respon-
“ sible that the regulations respecting this in-
“ dulgence to the men were rigidly enforced,
“ He

“ He was to see that the men having passes
 “ into town, returned at the stipulated
 “ hours without riot or irregularity, and
 “ that every man whatever was in bed at
 “ eight o’clock.

“ *Diet.*

“ This, one of the most important points
 “ in the management of troops in the
 “ West Indies, was particularly attended
 “ to in the 13th regiment.—The breakfast
 “ consisted of *cocoa* or *coffee* with bread,
 “ and occasionally fruit.—The Island of
 “ Jamaica allow two days’ fresh meat to
 “ the soldiers; this though liberal on their
 “ part, is not sufficient; a frequent and
 “ long-continued use of salt provisions, is
 “ well known to be hurtful to the human
 “ constitution in all situations, but where
 “ a deficiency of recent nourishment is
 “ combined with the relaxing effects of
 “ a tropical climate, the most destructive
 “ consequences are sure to follow; the
 “ appetite palls, the powers of digestion
 “ decline,

“ decline, the slightest scratches are apt to
“ degenerate into extensive and dangerous
“ ulcers, diarrhœas become frequent among
“ the men, and I have known many sol-
“ diers fall into a state of marasmas from
“ these causes alone.—By abstracting part
“ of the Quarter-Master’s profits upon
“ baking, and the other provisions and
“ allowances of the men, and the value of
“ the articles sold as improper, an extra
“ day’s fresh provisions was furnished,
“ generally without any, and always with
“ the most trifling deduction from the pay
“ of the men. A regular sum from the
“ pay of each soldier was appropriated to
“ the purchase of *vegetables, vinegar, and*
“ *pepper*, the Captain or officer paying the
“ company being solely responsible that
“ these salutary articles were liberally and
“ constantly supplied. When the funds of
“ the regiment were good, the command-
“ ing officer ordered an occasional allow-
“ ance of good bottled porter, an article
“ of great benefit to men living much on
“ salt provisions. Particular attention was
“ paid

“ paid by the Captain of the day, that the
 “ rum issued by the Quarter-Master was of
 “ good quality, that it was mixed with the
 “ due proportion of water, and care was
 “ taken that the men did not swallow their
 “ allowance at once before sitting down to
 “ dinner, a frequent but pernicious practice
 “ among soldiers in the West Indies. To
 “ facilitate these regulations, no soldier was
 “ permitted to eat his victuals by himself;
 “ every company was divided into two
 “ messes, at each of which a non-commis-
 “ sioned officer presided; they sat down
 “ regularly at tables provided with every
 “ comfort, equal indeed to any found in
 “ the private family of an artizan. When
 “ the married men were permitted to dine
 “ separately from the messes of their com-
 “ panies (a circumstance depending ex-
 “ actly upon their good behaviour) they
 “ were obliged to have their dinners ready
 “ at the same hour with the other men,
 “ and the Captain of the day inspected
 “ their tables and saw that they were pro-
 “ vided with the usual proportion of vege-
 “ tables, vinegar, &c.

“ *Parades,*

*“ Parades, Field-days, Exercise, and Duties
of Fatigue.*

“ The men of the 13th were never un-
“ necessarily exposed to the sun ; any man
“ indeed found out of the barracks be-
“ tween the hours of eight in the morning
“ and five in the afternoon, without the
“ permission of an officer, was liable to be
“ confined by the officer of the day or
“ guard, and punished. All duties of fa-
“ tigue out of barracks, such as cooking,
“ carriage of provisions, or any other
“ which exposed the men to the sun, were
“ performed by black pioneers, a propor-
“ tion of whom was allotted by the island
“ to each regiment, and the commanding
“ officer was always extremely particular
“ in taking care that the number was kept
“ complete. But although the men were
“ cautiously preserved from the sun, yet
“ the maxim of the King of Prussia, *that*
“ *a soldier should have no spare time*, was
“ strictly observed ; for the various duties
“ in barracks so completely occupied them,
“ that

“ that I believe they could not often boast
 “ of much idle time between the hours of
 “ parade, and escape censure at the same
 “ time.—There were two parades, one just
 “ before sun-rising, and the other between
 “ five and six in the afternoon, at which
 “ all officers and men attended, and the
 “ regiment was generally put through some
 “ manœuvres and exercised for sometime by
 “ the commanding-officer. There were ge-
 “ nerally two and sometimes three field-days
 “ in the week ; on these occasions, the men
 “ rose very early so as to reach the place
 “ of exercise (which was out of town) a
 “ very little after day-break. They con-
 “ tinued in the field till seven, half past
 “ seven, and sometimes eight o’clock, but
 “ never later. The surgeon or assistant
 “ always attended, and every man taken ill
 “ was immediately conveyed to the ho-
 “ spital. The cooks had orders to have
 “ the breakfast ready exactly as the men
 “ were dismissed, which superseded the
 “ necessity of their drinking water, always
 “ extremely pernicious after exercise in the
 “ West Indies.

“ This management of soldiers has been
“ much scouted of late, and it has been
“ said, that *pampering* men in this manner
“ renders them unfit for service in the
“ field, when they are necessarily obliged
“ to go through it. It is well known, that
“ the 13th were employed upon every
“ enterprize of fatigue or danger in St.
“ Domingo; and I know that they were
“ among the last that gave way to the
“ destructive effects of the climate. It has
“ been lately advanced by medical men of
“ respectability, and supported by some
“ officers of experience, that the soldiers
“ as soon as they arrive in the West Indies,
“ should be gradually enured to the sun,
“ by prolonging the field-days to *nine, ten*
“ o’clock, and so on till at last they are
“ brought under his meridian influence,
“ and made to perform all duties of fatigue
“ without the assistance of negroes. This
“ plan is in a great measure founded upon
“ the high degree of health which has been
“ observed to attend troops employed on
“ expeditions in the East and West Indies.

“ But

“ But this remarkable circumstance de-
 “ pends upon the enthusiastic ardor and
 “ energy of mind always attending men
 “ engaged in enterprizes of difficulty and
 “ danger, occasioning an extraordinary
 “ degree of excitement for the time, which
 “ supports them through labor and fa-
 “ tigue far above their usual strength, and
 “ enables them to resist causes of disease,
 “ which in the ordinary state of the system
 “ would infallibly overwhelm them. It
 “ is owing to this cause that soldiers are
 “ generally healthy on active service, even
 “ in unhealthy situations in the West In-
 “ dies, but upon returning into garrison
 “ are immediately attacked by disease;
 “ and I am fully persuaded that all attempts
 “ to expose men much to the sun, and to
 “ undergo duties of fatigue under his in-
 “ fluence, *with a view of seasoning men*
 “ *before they take the field*, will only add to
 “ the mortality of the climate.

“ Two attempts having been accidentally
 “ made to put into execution this *seasoning*
 “ *plan* in the 13th, after they had been

“ three years in the West Indies, and
“ might have been supposed to have un-
“ dergone a considerable degree of affimi-
“ lation to the climate, I think it proper
“ to mention them, as they appear to me
“ *cases in point*.—Some time after I joined
“ the regiment, a field-officer (much dis-
“ tinguished and afterwards killed in St.
“ Domingo) who had served in the East
“ Indies, where he had observed the sol-
“ diers much exposed to the sun and with
“ apparent impunity, often talked to Co-
“ lonel Whitelocke of the propriety of
“ following the same plan in the West
“ Indies, and at last persuaded him to
“ make the experiment. Accordingly the
“ field-days were gradually prolonged to
“ nine o’clock; but this scheme had not
“ been pursued above a fortnight, when
“ the number of sick increased so rapidly,
“ that the commanding-officer immediately
“ abandoned it; the health of the soldier
“ being always considered by him as
“ paramount to every other consideration,
“ and never to be exposed, except on
“ active

“ active service, when necessity called for
 “ extraordinary exertion.—The second
 “ attempt was made in St. Domingo; the
 “ regiment was at Jeremie soon after it
 “ was taken possession of, and when from
 “ the movements of the enemy, it was
 “ deemed of much importance to have
 “ some new fortifications finished as soon
 “ as possible. From the urgency of cir-
 “ cumstances at the time, the difficulty
 “ of procuring sufficient number of ne-
 “ groes, and the uncommon degree of
 “ health enjoyed by the men, Colonel
 “ Whitelocke was induced to employ them
 “ in carrying materials for the construc-
 “ tion of the works for several hours,
 “ morning and evening. The men how-
 “ ever had not been above a fortnight
 “ employed, before the number of sick
 “ was actually doubled, and although
 “ we did not lose any of them, yet
 “ many were dangerously ill; the work-
 “ ing parties were therefore immediately
 “ countermanded.—During a long resi-
 “ dence and much experience among

“ troops in the West Indies, I could pro-
“ duce other instances of a similar kind;
“ but they would swell out this paper far
“ above the original intention; I shall
“ only therefore observe, that the service
“ has already suffered much from the pre-
“ valence of these principles among young
“ officers going to the West Indies, and
“ that I am of opinion, that in attempting
“ to *season men* in this manner, two-thirds
“ of the British army would be sacrificed
“ before the remaining third could be
“ brought to *this happy temperature*.

“ *Cloathing.*

“ The 13th wore round hats, uniform
“ cloth jackets, with white linen trousers;
“ they were provided with the usual
“ articles which compose what are called
“ the necessaries of a soldier, with two
“ flannel shirts each man, the Captains
“ being responsible that they were always
“ completely provided with these different
“ articles; and to prevent the men from
“ felling

“ felling neceffaries, there was a day ap-
 “ pointed in the week for reviewing them;
 “ every Captain infpecting the neceffaries
 “ of his company in prefence of the com-
 “ manding-officer, and reporting the ftate
 “ of them to him. At that time I thought
 “ flannel highly beneficial under every cir-
 “ cumftance in the Weft Indies; farther ex-
 “ perience induces me to think that cotton
 “ answers better for common garrifon-duty,
 “ and that flannel fhould be referved for
 “ active fervice in the field, where the men
 “ are expofed to rain, are much in the open
 “ air, and are liable to difeafe from the
 “ great viciffitude of the day and night.
 “ Great care was always taken that the men
 “ changed their flannel fhirts at leaft twice
 “ a-week, and that they were perfectly dry
 “ and clean when put on; where particu-
 “ lar attention is not paid to thofe points,
 “ flannel becomes a caufe of difeafe, inftead
 “ of a means of prevention.

“ Cantine.

“ A Cantine established upon a proper
“ footing, with strict regulations laid
“ down, rigidly and uniformly enforced,
“ as was the case in the 13th at King-
“ ston, I consider as a most important
“ and highly beneficial arrangement in a
“ regiment serving in the West Indies.
“ Where, however, few or no rules are
“ laid down, or where good regulations are
“ not minutely and constantly adhered to,
“ it becomes the bane of a regiment, ex-
“ tends the usual sphere of debauchery, and
“ renders the necessity of corporal punish-
“ ment (a circumstance always to be la-
“ mented) extremely frequent, and severe
“ in degree.

“ One of the most careful, steady, and
“ well-behaved non-commissioned officers,
“ was selected to take charge of the Can-
“ tine; and as under all the restrictions it
“ was a very lucrative situation, he had
“ every inducement to behave well, and to
“ follow

“ follow strictly the orders he received ;
 “ for he was told on entering into it, that
 “ any departure from the instructions on
 “ his part, or his conniving at or conceal-
 “ ing deviations from the rules, by the
 “ men, would be immediately followed by
 “ his being turned out with disgrace. The
 “ regulations were written out by the regi-
 “ mental clerk, and hung up in a conspi-
 “ cuous part of the Cantine, that none
 “ might plead ignorance.—The serjeant of
 “ the Cantine was obliged to purchase *rum*,
 “ *wine*, *porter*, in considerable quantities at
 “ a time, and before issuing it, it was in-
 “ spected by the quarter-master and other
 “ officers appointed for that purpose: he
 “ was obliged to brew spruce beer, so as to
 “ sell it at about one penny per bottle, and
 “ every means were used to induce the men
 “ to drink this salutary beverage. At the
 “ end of every muster, the debts of the
 “ men at the Cantine were discharged, and
 “ the men being completed with necessa-
 “ ries, a list of their credits was given to
 “ the serjeant of the Cantine, who had or-
 “ ders

“ ders to allow each man to the extent of
 “ his credit in the course of the ensuing
 “ muster, never however exceeding a *cer-*
 “ *tain sum per diem*, regulated by the nature
 “ of the liquor he chose to drink. By this
 “ regulation, the men never received their
 “ balance all at once (a practice but too
 “ frequent, and which sends many to their
 “ graves); the Cantine serjeant could ne-
 “ ver lose by the men; it operated power-
 “ fully on the soldiers as an incentive to
 “ take care of their necessaries, that they
 “ might get into credit; and the exclusion
 “ from this indulgence, became a great
 “ mortification and punishment.

“ The Cantine was kept shut all day,
 “ and never opened till after evening pa-
 “ rade, from which time to eight o'clock
 “ at night the men had free access to it.
 “ No sailors were permitted to go to the
 “ Cantine without the permission of an
 “ officer, and women were also excluded,
 “ except those belonging to the regiment.

“ Sick

“ Sick and Hospital.

“ No man, with the most trifling complaint, was permitted to remain in barracks ; and any non-commissioned officer, not immediately reporting any man taken ill belonging to his company, was certainly reduced. There was a non-commissioned officer of the day appointed to attend the surgeon, make out a list of the sick in the morning, visit the different companies frequently through the day, and to conduct every man reported sick immediately to the hospital. I have mentioned that the surgeon or assistant attended every parade ; there were however two days in the week on which the surgeon inspected narrowly the countenances of every man on the parade, by which chronic disease was often detected, and men's lives frequently saved ; for good soldiers are frequently afraid of the appellation of *malingerers*, and hence conceal their complaints till irreparable mischief

“ mischief is done. The surgeon also ex-
“ amined the men’s legs upon those days,
“ that the most trifling sores or scratches
“ might be attended to immediately; and
“ to this precaution the complete exemp-
“ tion of the 13th from extensive and in-
“ veterate ulcers is in a great measure to be
“ attributed. The high importance of these
“ regulations, when strictly enforced, can
“ only be estimated by those whose expe-
“ rience has led them to observe the rapid
“ fatality of tropical diseases, and how lit-
“ tle they are under the power of medi-
“ cine after they have made any consider-
“ able progress.

“ The hospital attendants consisted of a
“ steady married serjeant, whose duty con-
“ sisted in taking care of the provisions of
“ the men, keeping the accounts, and su-
“ perintending the cleanliness, order, and
“ regularity of the patients. His wife
“ washed, had charge of the bedding and
“ linen of the men, made drinks, and,
“ in short, acted completely as nurse.
“ There were two permanent orderly men,
“ who

who were exempted from all other duty, and attached solely to the hospital; when the number of sick was augmented, additional orderlys were allowed, about the proportion of one to every ten sick. There were two negroes allowed to cook and perform the other drudgery about the sick and hospital.

“ The surgeon visited the hospital always three times a day, but frequently much oftener, particularly during the sickly season when the diseases in that climate are extremely rapid, and the changes in the morbid movement sudden, and often critical, requiring the utmost vigilance and nice discernment in the practitioner to conduct them safely to a termination. The importance of frequent visits on the part of the surgeon cannot be too much insisted on, as being extremely necessary to successful treatment of disease; but they also ensure order and regularity in the hospital, and attention of nurses and orderlys to the administration of medicines, drink, and nourishment, which
“ are

“ are often neglected altogether, or done in
“ a careless manner, where the surgeon does
“ not frequently superintend himself. The
“ allowances granted by the island of Ja-
“ maica for the support of the sick are so
“ well known to you, that it is needless to
“ mention them here ; I shall only observe,
“ that where regiments were sickly, they
“ were not adequate to the purpose, and
“ that at all times it was found necessary to
“ have other funds to defray extra expences
“ attending the purchase of articles proper
“ for the sick, although not allowed either
“ by the Island or Government. The men
“ were put under a stoppage of two shil-
“ lings per week while in hospital ; there
“ was also twenty pounds allowed by Go-
“ vernment for the payment of nurses, or-
“ derlys, &c. but even these sums were
“ sometimes insufficient ; in which case the
“ only resource was the stock-purse of the
“ regiment : and I have much satisfaction
“ in saying, that upon a proper represent-
“ ation to the commanding officer, the pay-
“ master had orders to supply the defi-
“ ciency.

“ ciency. All purchases for the sick were
 “ made by the quarter-master, by order of
 “ the surgeon. The serjeant kept a regular
 “ daily account of the expences incurred
 “ and money received from the paymaster,
 “ which were balanced weekly, examined
 “ and certified by the surgeon, and the
 “ whole submitted to the inspection of the
 “ commanding officer once a month, or as
 “ often as he chose. A regular *diet table*
 “ was made out every morning, in which
 “ the surgeon himself entered the diet of
 “ each patient opposite to his name; it
 “ was signed by the surgeon, and hung up
 “ in the most conspicuous part of the ho-
 “ spital, for the satisfaction of the visiting
 “ officer, as well as the patients themselves.
 “ These diet tables were produced by the
 “ serjeant at the end of the week, and were
 “ the proper vouchers for the expen-
 “ diture.

“ These are the principal observations
 “ which occur to me in my present hurried
 “ and unsettled state, as worth detailing to you
 “ upon the subject of the *interior economy*
 “ of

“ of the 13th regiment: if any of them
“ should prove of the least service to you
“ in the work you are at present engaged
“ in, it will afford me much satisfaction,
“ while I am gratified in having an oppor-
“ tunity of adding my feeble testimony of
“ the abilities and zeal of the officers under
“ whom I had the honour to serve. Their
“ flattering attention to every thing I had
“ occasion to propose in my official situa-
“ tion respecting the health of the men, or
“ comfort of the sick, I reflect on with
“ pleasure, and their civilities to me per-
“ sonally I shall ever remember with gra-
“ titude.”

The annexed table * of the state of health of the 13th regiment, for three months in the year 1793, which was nearly about the the period when the island became so very sickly, will serve to confirm all the advantages which this corps derived from judicious discipline, and which have been so ably pointed out in the preceding remarks of Dr. Gordon.

* See Table, No. VI.

QUARTERLY RETURN of the SICK of the 13th REGIMENT, stationed in KINGSTON, JAMAICA, from the 1st of APRIL to the 1st of JULY 1793.

From the 1st of APRIL to the 1st of MAY.

DISEASES.	Febris Remittens.	Lues Venerea.	Dysenteria cum Febre.	Rheumatism.	Ictus Solis.	Debility.	Burns from Gun-powder.	Sore Legs.	Catarrhal Fever.	Total.
Remained last Return	11	1	—	1	—	—	—	2	—	15
Entered	16	1	3	—	1	1	1	2	7	32
Discharged	19	2	1	1	1	1	1	2	5	33
Remain	8	—	2	—	—	—	—	2	2	14

N. B. The Case of *Rheumatism* was invalided and sent to England on the 4th of April.

From the 1st of MAY to the 1st of JUNE.

DISEASES.	Febris Remittens.	Dysenteria cum Febre.	Sore Legs.	Catarrhal Fever.	Pthifis Pul-monalis.	Rheumatism.	Wounds.	Obstructions in the Biliary System.	Fistulæ in Ano.	Total.
Remained last Return	8	2	2	2	—	—	—	—	—	14
Entered	9	2	—	2	1	1	2	1	1	19
Discharged	12	3	2	2	—	—	1	1	—	21
Remain	5	1	—	2	1	1	1	—	1	12

N. B. *Adamson*, one of the Cases of *Dysentery*, was invalided and sent home on the 1st of June.

From the 1st of JUNE to the 1st of JULY.

DISEASES.	Febris Remittens.	Dysenteria cum Febre.	Catarrhal Fever.	Pthifis Pul-monalis.	Rheumatism.	Fistulæ in Ano.	Wounds.	Cholera Morbus.	Fractures <i>Ulna</i> et <i>Maxilla Inferior</i> .	Lues Venerea cum Fistula in Ano.	Total.
Remained last Return	5	1	2	1	1	1	1	—	—	—	12
Entered	35	4	2	—	1	—	—	3	2	1	48
Discharged	15	4	2	—	—	1	—	2	—	—	24
Remain	25	1	2	1	2	—	1	1	2	1	36

Total Sick in the QUARTER.

DISEASES.	Febris Remittens.	Lues Venerea.	Rheumatism.	Sore Legs.	Dysenteria cum Febre.	Catarrhal Fever.	Cholera Morbus.	Lues Venerea cum Fistula in Ano.	Fistulæ in Ano.	Wounds.	Burns from Gun-powder.	Pthifis Pul-monalis.	Obstructions in the Biliary System.	Fractures <i>Ulna</i> et <i>Maxilla Inferior</i> .	Ictus Solis.	Total.
Remained last Time	11	1	1	2	—	—	—	—	—	—	—	—	—	—	—	15
Entered	60	1	2	2	9	11	3	1	1	2	1	1	1	2	1	98
Discharged	46	2	1	4	8	9	2	—	1	1	1	—	1	—	1	77
Remain	25	—	2	—	1	2	1	1	—	1	—	1	—	2	—	36

The dress of the soldiers in the West Indies certainly deserves some consideration. The object evidently should have in view his health, comfort, and affording him the easiest means of performing his duty in that climate. The present caps and hats used by many regiments are highly improper, since they not only are too heavy, but also are ill calculated to screen the head and face from the sun, or to counteract its effects. Light round white hats, with broad rims and very deep crowns, to fit rather close on the head, would answer the purpose much better, and would probably prevent many of those fatal fevers which have arisen in consequence of great exposure to the sun. That light thin flannel, worn next the skin, is a valuable preservative against sickness in a tropical climate, is a fact in which most practitioners agree; since, while it keeps up an equal degree of perspiration, by its absorbing quality it prevents that chilling sensation, and its consequences, which is often experienced, after being overheated, by those who wear linen

only. But without the foldier is furnished with a fufficient number of flannel waiftcoats or shirts to admit of their being frequently washed, the use of flannel may perhaps be productive of more harm than good, by converting the perpetual perspiration to which he is exposed in this climate, into a state, which, by being constantly applied to the skin, may be absorbed, and in itself give rise to disease. Thick calico shirts and drawers, in that case, would be a good substitute ; and over these may be worn the usual linen waiftcoats and trowsers. Long coats, or even the close jackets adopted by many regiments, are not calculated to add to the comfort or health of the foldier in the West Indies ; since they not only heat but encumber him, in actual service : round waiftcoats, made large and easy, and to fall pretty low over the hips, would therefore be the most suitable. It appears also of some consequence to prevent the feet and legs from being wet, during the prevalence of the seasons or heavy rains. This might be effected by the use of stouter shoes at that period,

period, and the wearing of leather gaiters, which should reach full as high as the calf of the leg. These, if constantly used, would also prevent many of those accidents, which have so often baffled the surgeon, and destroyed the soldier's health, in the form of ulcers*.

* The situation of soldiers, whose constitutions have been so impaired as to require a change of climate, has been fully considered in the chapter on Chronic Diseases.

END OF THE FIRST VOLUME.

